

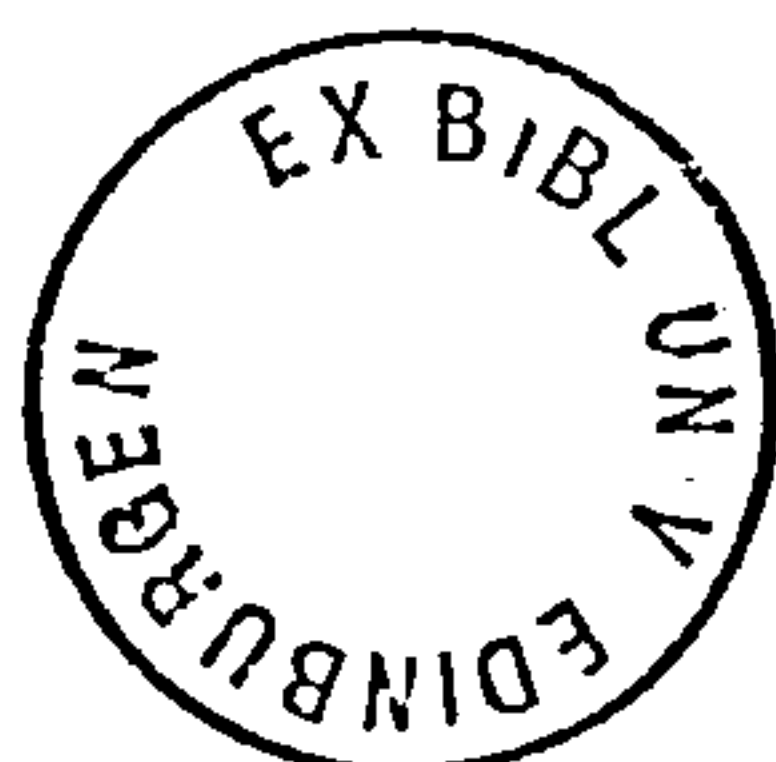
THE SOCIAL CREATION OF A LEGAL REALITY :
A STUDY OF THE EMERGENCE AND ACCEPTANCE OF THE BRITISH PATENT SYSTEM
AS A LEGAL INSTRUMENT FOR THE CONTROL OF NEW TECHNOLOGY

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I hereby certify that the research for,
and the composition of, this thesis has
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ABSTRACT OF THESIS

This thesis examines the way in which the patent system emerged in Great Britain and was accepted by 1883 as a legal instrument by which new technology could be controlled and exploited. Its purpose is to contribute, by means of a detailed historical case study, to the sociological understanding not only of the emergence of patent law but also, more generally, of law as a mode of reproduction of the social order.

In the first chapter various approaches in the sociology of law to the study of the emergence and the reproductive role of law are considered. A model of how law could have been expected to emerge and what role law, in conjunction with the state, could have been expected to play in an industrialising capitalist society such as Great Britain, is synthesised from these approaches.

In subsequent chapters the model is used in the examination of the history of legal control of new technology. The manner in which patent law permitted units of technology to become 'commodities' within the capitalist system and in which the patent system (and the related system of registration of designs), through the active intervention of agents, gained acceptance as the 'common-sense' way of ordering the control of new technology is emphasised.

In the final chapter a theory of technological commodities is advanced and its utility as an explanation for the emergence of patent law is critically examined. Comparisons are made with studies of other bodies of law that emerged as responses to the 'needs' of developing industrial capitalism and generalizations about patterns of emergence are suggested. In the light of the historical research general observations are made about the sociological conceptualization of law. The significance of these conclusions for future research is considered.

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ABBREVIATIONS

Standard abbreviations of law reports which are included in the English Reports are not given. In all instances where reference has been made to decisions included in the English Reports, alternative citations referring to the English Reports have been included in the bibliography.

AJS American Journal of Sociology.

BJL&S British Journal of Law and Society.

Davies PC - Davies' Patent Cases: J Davies, A Collection of the Most Important Cases Respecting Patents of Invention (1816).

DNB Dictionary of National Biography.

EHR Economic History Review.

ER English Reports.

Farey's Papers - A collection of case reports and summaries submitted by J Farey to the Select Committee on the Law Relative to Patents for Inventions 3 *PP* (1829).

Hansard Hansard's Parliamentary Debates from the year 1803 to the present time .

JEH Journal of Economic History.

JHC Journal of the House of Commons.

JHL Journal of the House of Lords.

Law Max Weber, On Law in Economy and Society (1954).

LJA London Journal of Arts (and Sciences).

LQR Law Quarterly Review.

MM Mechanics' Magazine.

Parl Hist The Parliamentary History of England from the earliest period to the year 1803.

PP Parliamentary Papers.

POC Patent Office Collection.

WPC Webster's Patent Cases : T Webster, Reports and Notes on Letters Patent for Invention (2 vols - 1844).

CHAPTER 1 - SOME SOCIOLOGICAL PERSPECTIVES ON THE EMERGENCE OF LAW

1. Introduction

The sociology of law like the sociology of any specific field has dual goals.¹ On the one hand it attempts to contribute to general social theory, whilst on the other it attempts to provide an insight into the sociological significance of the specific subject matter, eg. law or the family. There are two dangers inherent in the sub-division of sociology.

A) The first danger is that any 'sociology of ...' will unquestioningly accept the boundaries of its subject matter as predefined. This is particularly true of the sociology of 'theoretical sciences' such as economics and law where practitioners have built up a body of knowledge which is claimed to be discrete and internally coherent and which, at the same time, explains other social phenomena. As Lukács has noted: 'Economics, law and the state appear [in bourgeois thought] as closed systems which control the whole of society, by virtue of the perfection of their own power and by their own built-in laws.'²

The sociology of law, even when focusing on specific areas of law, has often fallen into this trap by accepting that the legal system ought to operate in accordance with the standards which lawyers claim for it.³ It has concentrated on exposing a 'gap' between the law in books and the law in action.⁴ In so doing it has accepted unquestioningly the law in books - the 'higher law' - as the basis for its researches rather than attempting to determine for itself what facet of law is of sociological significance, or attempting to understand the sociological significance of the 'gap' itself.

Empirical studies of the emergence of particular laws have not entirely solved the problem of the legal culture predefining what is relevant to their objectives. They have the advantage of dealing historically with law in differing (or at least varying) social contexts and thus being able to note changed relationships between law in general and society. Yet, too often, they have tended to concentrate narrowly on non-legal events surrounding the emergence of specific pieces of legislation. They have tended to ignore changes in the socially perceived meaning and content of legal forms which lawyers regard as constants.

B) The second danger is that the sociology of a particular field will inhibit the development of general sociological theory by concentrating its analysis on those social forces which seem to be directly related to its subject matter. In the sociology of law theory about the sociological significance of law as an object of study, has not always been clearly articulated.⁵ This has resulted in a concentration upon the most 'obvious' function of law - that of social control. In 'gap' studies it has been assumed that there is a general consensus about what norms law should enforce.⁶ The concern of the sociologist has been to see whether these legally sanctioned norms are enforced. While it is true that some legal norms are supported by a consensus in society it is apparent that such an approach can generate no theory of the relationships between law and society as it assumes that a particular relationship exists without investigating it.

Existing emergence studies appear to provide an alternative to the implicit assumptions of a consensual sociology of law. By describing how laws come into being they point to differences of opinion, to conflicts within society about specific laws. However, as shall become apparent from the discussion of a number of these studies below, they do not contribute as much to social theory as might be expected. In many of these studies there is a tendency to focus almost exclusively on interest groups and individuals who, in the light of the historical records they have left, saw themselves as directly involved in the shaping of the law. Not only does this lead to an uncritical acceptance of their view of events, but their intervention is often regarded as the sum of the social forces relevant to the shaping of law. In its crudest form, social structure is seen as consisting only of interest groups

Emergence studies, however, lend themselves to a more sophisticated form of social theory than that which has just been outlined. Implicit in the idea of emergence is the notion of social process - a notion which implies a dynamic rather than a static model of society. Hunt, in his essay, 'Perspectives in the Sociology of Law'⁸ suggests that what is required in the sociology of law is an approach which would preserve the notion of social process. He argues that as starting point, law should be conceptualized as a mode of reproduction of the social order. Underlying this conceptualization is the idea that society exists only because its composite relations and institutions are reproduced. As Hunt expresses it:

'It is the fact that social activity is reproductive of a social order that makes it possible to give meaning and substance to the very concept of society itself.'⁹

Since law is amongst the 'institutions' which are reproduced it is also conceptualized as a 'social process which is predicated upon the functioning of other social processes'.¹⁰ An emergence study would therefore focus on the changed role of law or of a particular body of law in the reproduction of social order and, at the same time, focus on the changes which law itself undergoes in this process.

The advantage of such an approach would be that it would preserve an openness about law which would avoid acceptance of lawyers' definitions of law. At the same time it would allow the sociology of law to contribute to the understanding of social processes in society in such a way that it could provide added insight into the major sociological problem of how societies reproduce themselves. Furthermore, the notion of the reproduction of social order is historically specific. As Hunt notes, 'it is not society in general that is reproduced but particular societies or social formations that are reproduced'.¹¹

Within what conceptual framework can historically specific analysis of law most fruitfully be attempted? To some extent the conceptualization of law as a mode of reproduction of the social order determines the answer to this question for it shifts analysis towards a focus on opportunities for and constraints on the evolution of law. Some of these (macro-) structural factors are contained in law itself. At this level some guidance can be obtained from social theorists who have examined the reproduction of a changing social order within which the body of law to be studied was produced and reproduced. The work of Weber and various Marxists is examined below for such guidance.

Overarching theoretical models of social change do not, however, solve the problem of historical specificity. Could it not be that in a particular historical context the active intervention of agents shapes the historical emergence of law in specific ways? Could it not be that interest groups, so often mentioned in empirical studies of the emergence of specific laws, do play a significant role? Grand theorists make some allowance for these possibilities. Thus Marxist theory, for example, allows that active intervention in the class struggle might be influential. It will be argued below, however, that theorists when developing their theoretical models, do not

always make adequate allowance for the influence of agents on the emergence and reproduction of bodies of law.

In contrast to grand theory, empirical studies of the emergence of law appear to stress the role of agents and to ignore structural forces. When such studies are analysed, however, it will be seen that this generalization does not hold for all of them. Accordingly, prior to the consideration of overarching theoretical models, a number of such studies will be analysed together with sociological writings which develop the concepts they use. Thus the adequacy of their assumptions about structural factors can be analysed. At the same time insights which would remain valid even if placed within a different model of society, will be noted.

It is a key argument of this thesis that an understanding of the relationship between active agents and structure provides the basis for the synthesis of insights gained from the historical study of the emergence of specific laws with broader evolutionary views on law in general. In the section following the discussion of overarching theories of legal emergence a theoretical synthesis is provided as a basis for historical analysis.

Finally, historically specific analysis depends on the selection of a body of law for study. The area of analysis chosen in this thesis is the emergence of law relating to the control of new technology. The reasons for this choice are given in the last section of this chapter. Nevertheless, it can be noted at this stage that the reproduction of a mode of controlling and applying new technology would appear to be a significant factor in the reproduction of social order in industrializing and industrialized societies and that law (particularly patent law) plays some part in it. Accordingly, in the examination of theoretical frameworks, particular emphasis is placed on work which might provide insights into the social factors surrounding the emergence of law in the reproduction of industrial societies.

II. Empirical studies

Empirical studies vary widely in the extent to which they attempt to relate the activities of the agents they describe to the structural context within which they operate: An early example of a study which emphasised the active role of interest groups but explained their activities in terms of the volition of those involved in these groups rather than in terms of structural constraints on them was Aubert's investigation in 1953 of the

effectiveness of new legislation to deal with the working conditions of domestic servants.¹² Investigation had shown that the law was largely being ignored. Aubert found that the cause was not the inherent 'criminality' of the violators of the statute, but the striking ambivalence which the legislators had shown to the behaviour in question. This ambivalence was expressed in a statute which made provision for penal sanctions but at the same time was practically unenforceable.¹³

The reason for the legislators' ambivalence ought therefore to be investigated. Aubert did so briefly. He speculated that the ambivalence was caused by two groups in the legislature, 'the left' and 'the right'. The statute as passed represented a compromise whereby 'the left' could claim victory in having it enacted at all, whilst 'the right' could ensure that the status quo was not disturbed.¹⁴

Interest groups, i.e. 'the left' and 'the right', were not the final units in Aubert's analysis. They could be subdivided into 'multiple, social hierarchies' and 'diverse status systems', but these in turn would have to be explained in terms of some other unit.¹⁵ This seems to raise a problem of infinite regress which Aubert is only able to solve with an individualistic (psychological) explanation. In his words:

'Finally, the basic concepts involved in such a study should not be of a specifically criminological or legal nature but belong in a general theory of social psychology.'¹⁶

The problem of reductionism in this explanation is a product of the underlying view of society which forms the basis of Aubert's explanatory model. This model is pluralist. Society is seen as consisting of various (random?) hierarchies and status systems; and the differentiations of social life are seen as facilitating 'the playing-off of interest in a fluent and egalitarian fashion'.¹⁷ Such a model assumes that this playing off takes place within a neutral framework which does not 'bend' the rules but allows clashes to be acted out and compromises to be made between interacting groups. It implies in fact a view of the state as largely neutral and value free. The state then is held to provide a neutral and consensually accepted framework within which the acting out can take place. Whether this is ever completely true in a given society is doubtful. Certainly the

neutrality of the state, of the structure within which decisions are made, cannot be assumed from the idealist, abstract models of constitutional (and procedural) law, but can and should be studied empirically.¹⁸

More recent studies of the role of interest groups have stressed that powerful interest groups are the most influential in the emergence of laws. This introduces the possibility of analysing how power is distributed amongst various interest groups in society. Unfortunately this aspect is not clearly pursued in empirical work. In spite of the use of the concept, power, in such studies, the model of society is similar to Aubert's. An example is Chambliss' analysis of the emergence of the law of vagrancy in England.¹⁹ Chambliss summarizes his findings in the following way:

'Analysis of the vagrancy laws has demonstrated that these laws were a legislative innovation which reflected the socially perceived necessity of providing an abundance of cheap labor to landowners during a period when serfdom was breaking down and the pool of available labor was depleted. With the eventual breakup of feudalism the need for such laws eventually disappeared and the increased dependence of the economy upon industry and commerce rendered the former use of the vagrancy statutes unnecessary. As a result, for a substantial period the vagrancy statutes were dormant, undergoing only minor changes and, presumably, being applied infrequently. Finally, the vagrancy laws were subjected to considerable alteration through a shift in the focal concern of the statutes. Whereas in their inception the laws focused upon the "idle" and "those refusing to labor" after the turn of the sixteenth century an emphasis came to be upon "rogues", "vagabonds", and others who were suspected of being engaged in criminal activities. During this period the focus was particularly upon "roadmen" who preyed upon citizens who transported goods from one place to another. The increased importance of commerce to England during this period made it necessary that some protection be given persons engaged in this enterprise and the vagrancy statutes provided one source for such protection by re-focusing the acts to be included under these statutes.'²⁰

This quotation does not do justice to the full complexity of Chambliss' analysis. In the course of his empirical work, Chambliss does make some attempt to isolate various stages in the development of English vagrancy law and to detail the nature of the powerful interest groups involved in each stage of the process. In this description Chambliss shows an implicit understanding of fundamental changes in the English economic structure. However, he makes no attempt to link his analysis of his data

to a broad model of social and economic change. The interest group analysis is not referred back to any overarching social theory.

One of the factors which serves to isolate Chambliss' approach from larger theoretical concerns is his choice of a unit of law for analysis. In analysing the development of vagrancy law he assumes that linear developments postulated by legal history are sociologically relevant. However, had he considered the place of law in the reproduction of social order he would have been forced to consider the possibility that a legally delineated body of law, such as the law relating to vagrancy, might have had functions of differing relevance to the reproduction of a particular area of social life. For example, if he had examined the role of law in the control of labour he might have been forced to abandon the study of vagrancy law at the period when the law became dormant and to have examined instead the alternative means of social control then adopted. In this way he would have been able to answer crucial questions about the changing importance of statute law, uncodified law and custom in evolving social conditions.

Chambliss' study has been widely quoted and reprinted and has been influential in shaping the analysis of the relationship between law and society.²¹ In the so-called conflict school of criminology explanations based on power as a central concept in the explanation of the genesis of criminal law have been particularly important. Thus, for example, Richard Quinney, a prominent representative of this school, who quotes extensively and with approval from Chambliss' study in his book The Social Reality of Crime, concludes: 'Lawmaking, according to this [conflict] perspective, represents the translation of specific group interests into public policy.'²²

Stated in its most extreme form the conflict approach comes close to claiming that law-making is a conspiracy of the powerful. As Paul Rock points out such an approach 'poses an image of society which is dominated by an intellectualised version of International Freemasonry; a knowing, self-interested and capable elite'.²³ Not only is this image unlikely to apply to any existent society, it is also incapable of producing any theory of the emergence of law because of the circular reasoning in its description of the exercise of power; i.e. law is made by powerful interest groups;

we know they are powerful because they make law. A change in law must therefore indicate a change in the power structure. However, there is no explanation from within the theory as to why a change in the exercise of power will take place. Ultimately therefore the models of society on which conflict theory is based, are similar to those of pluralists such as Aubert, since conflict theorists like Quinney also see society as consisting of an unspecified number of interest groups.²⁴

Two separate recent theoretical developments of the concept of power suggest that the conflict approach could, in spite of its apparent weaknesses, contribute to a broad theoretical understanding of the concept of law and of the social forces involved in its formation.

A development of the concept of law from the power/conflict perspective is advanced by A T Turk in his article 'Law as a weapon in social conflict'.²⁵ Turk points out that a conception of law as a means of dispute settlement, such as is found in theories which conceive of law as reflecting consensual public opinion, ignores the possibility that law might in some cases be disruptive and exploitative. Studies starting with the assumption that law primarily serves to settle disputes usually unquestioningly accept cultural definitions of law as 'natural'. Instead he argues that

'[t]he empirical quality of law...seems...to be that it is a set of resources for which people contend and with which they are better able to promote their own ideas and interests against othersTo say that people seek to gain and use resources to secure their own ideas and interests is, of course, to say that they seek to have and exercise power.' ²⁶

Turk distinguishes the use of law in a wide range of social fields. He defines five spheres in which power can be exercised - 'all represented in the cultural and social structural reality of law'.²⁷ They are:

- A. Police power: 'Having the law on one's side' allows one rightfully to call on others to use violence on one's behalf.
- B. Economic power: A particular economic system is entrenched in law, e.g. tax law.
- C. Political power: The law provides the structure (parliamentary or otherwise) in which political decisions must be made. The shape of the structure could be biased to encourage or discourage a particular party.

- D. Ideological power: Definitions of reality embodied in law for historical reasons carry great weight. '[L]egalism is the cultural bedrock of political order.'²⁸
- E. Diversionary power: The rhetoric and real workings of law distract men from other issues and at the same time 'reinforce the sense of law as an overwhelming, scarcely challengeable reality and criterion of reality'.²⁹

Turk's extremely broad conception of law hints at a conception of society far more sophisticated than a mere cluster of interest groups. Concepts such as economic, ideological and political power imply a sophisticated model in which law plays a key role in various spheres of the social structure. Yet, paradoxically, this is not the case. In Turk's conceptualization the 'social forces' who 'use' law remain isolated interest groups distinguished only by their own relative positions of power. No attempt is made to understand these groups as part of a broader social structure which itself is reproduced in the very spheres of power Turk describes. Instead interest groups are implicitly seen as existing outside and relatively untouched by these spheres of power.

In partial contrast to Turk's work the theoretical analysis of the concept of power advanced by Lukes³⁰ (which does not deal directly with law) can serve as a tool to relate analyses based on power to deeper-lying social structures and processes. Lukes distinguishes between three concepts or dimensions of power.

The one-dimensional view of power focuses on cases of observable conflict of interests, i.e. the case 'where someone induces someone else to do something that he would not otherwise do'.³¹ In the two-dimensional view the focus is slightly broader. The exercise of power is defined also to include the conduct of a person or group who, consciously or unconsciously, creates or reinforces barriers to the airing of conflicts.³² The two-dimensional view, Lukes argues, is however, still limited because it stresses the necessity that there be some observable conflict of interests for an exercise of power to take place.

In contrast to these first two views, Lukes argues for a three-dimensional view of power. According to this view a truly sociological conception of power should totally reject a behaviourist focus - i.e. a focus geared to the

study of observable conflict. Instead, it should concentrate on the way in which potential issues are entirely excluded from politics so that no conflict arises at all. In order, however, to suggest that any exercise of power has taken place there must at least be latent conflict. Lukes defines latent conflict in the following way:

'[C]onflict is latent in the sense that it is assumed that there would be a conflict of wants or preferences between those exercising power and those subject to it, were the latter to become aware of their interests.'³³

This formulation raises a great possibility for expanding the study of power in that the 'keeping out' of issues is determined not only by conscious decisions but also by the ideological and institutional structures within which power is exercised. A study of the exercise of power over a period would therefore have to take broad structural considerations into account. The three-dimensional view of power is, however, not entirely 'structuralist' - as one of its critics, Crouch, has suggested.³⁴ It assumes that 'although the agents operate within structurally determined limits, they none the less have a certain relative autonomy and could have acted differently'.³⁵ The concept of power is used to examine, in historically specific circumstances, how power is in fact exercised, i.e. directly or through structural constraints.

The delineation of the 'real' interests of those over or against whom power is being exercised presents a problem. Lukes argues that the delineation of real interests rests on an 'irreducibly evaluative notion'.³⁶ In delineating real interests he makes an absolute evaluation based, it seems, on inalienable (or, in Weber's terminology, substantive) natural rights. It does not, however, seem necessary to do this. If one limits oneself to asking why particular interests were not perceived or were only partially perceived in a particular historical period, one can employ the concept of power in a more limited way without deciding what 'ultimate' (real) values are.

The criticisms advanced so far of empirical studies of the emergence of law, centre around the argument that they were inadequately situated within a macro-sociological framework. However, this does not mean that all studies that analyse the emergence of law at a level of competing interest groups must be rejected out of hand. Careful empirical studies

have succeeded in noting some immediate structural influences even where they have not been placed in a broader context.

An example of such a study is Ingeborg Paulus' examination of the emergence of legislation dealing with pure food and drugs in the 19th century.³⁷ Like Chambliss, she concentrates on interest groups as her basic unit of analysis, but, because her analysis is at a more micro-sociological level, she notes the intricacies of interest group struggles far more sensitively. Particularly perceptive is her analysis of the role of bureaucratic structures of enforcement in shaping interests, and indeed in providing the conditions for the formation of groups of professionals, the 'public analysts' who themselves come to have vested interests in further development of legislation.³⁸

Similarly valuable is her detailed description of the way in which the courts made the statutes acceptable to powerful interests by reading in a requirement of strict liability where parliament had failed to specify the form of *mens rea* required.³⁹ She thus progresses beyond Aubert's implicit conception of a neutral parliament providing a forum for 'sensible' compromise by pointing to the fact that the actual power of law-making might be exercised elsewhere and that the forum might be structurally biased to produce particular solutions.

Given the detailed analysis to which Paulus subjects her data one might expect important theoretical insights from her work. Unfortunately however, this is not the case as she does not situate her study in any major sociological theory.⁴⁰ Instead she adopts a developmental model which the historian of 19th century administration, O. MacDonagh, had advanced. This model purports to sketch 'the most logical and usual type of development'⁴¹ which 19th century welfare law would have followed. She summarizes the model as follows:

'During the nineteenth century the legislative process began by the public exposure of an abuse. These exposures emanated from outside the government, and Parliament's concession was in the form of a remedial statute, which in most cases was quite inadequate to check the abuses because of the lack of an enforcement apparatus. The next step provided for such, and the experiences and activities of those engaged in the enforcement of the statute exposed further ramifications of the social problem and the general ineffectiveness of the legislation to control it. The work of the law-enforcers established an authoritative case for more practicable and detailed legislation and for more refined and expanded activities, calling for more personnel and more delegated authority. Those to be controlled often changed their perception and, instead of opposing control, in turn called for further and more stringent control, generally supporting the activities of the law-enforcers as long as the personal and social costs of such law-enforcing activity could be borne easily and without too great stigmatisation. Once the legislative and administrative reconstruction had reached such an accommodation between the law-enforcers and potential offenders, the whole process repeated itself, generating its own dynamic from the experience of the administrators and without the intrusion of outside agitation, until the problem had been brought under communal control.'⁴²

The value of this model as a heuristic device is that it captures the idea that law emerges in the course of a continuing social process, that it stresses the interrelationship between administration and law and that it opens the way to an understanding of the formative role of the state in the law-making process.⁴³ It can however, be criticized. On its own terms the model appears to be an unjustifiable generalization for the period to which it refers. Thus Parris⁴⁴ has pointed out that there are several areas of legislation in the middle of the 19th century which do not follow the pattern MacDonagh suggested. More important is the criticism that MacDonagh's model cannot cope with macro-sociological concepts such as the influence of class or ideology on the social processes involved in the formation of law.

The exclusion of concepts of class and ideology is interrelated. Thus MacDonagh in his substantive study of the Passenger Acts wrote: 'Time was to show that no wall of laissez faire could permanently withstand the trumpet cry, "intolerable".'⁴⁵ By this he meant that ideology in the form of political doctrine was relatively unimportant once what Paulus calls a 'dramatized exposure of an evil' had taken place.⁴⁶ However, such a view of ideology is extremely narrow and depends on accepting the protestations of social reformers at face-value. Social reformers might also have goals which they do not always make explicit. Thus P Young in an exploration of the

historical foundation of probation⁴⁷ has noted that the 'charity' supported by social reformers in this context also served the class function of making the working class accept entrepreneurial middle class values. It is at least possible that the types of social reform MacDonagh and Paulus describe could serve to reproduce a general ideal of laissez-faire and thus to further the hegemony of the middle class.⁴⁸

The argument is not that Paulus has so misunderstood the process that she describes, that she has failed to notice a giant conspiracy by the middle class. What is suggested is that, because of her explanatory model, she fails to notice the possible significance of dealing with what she herself identifies as a 'middle class' social movement.⁴⁹ The result could be that the changes of meaning which she describes took place within the structural limitations of middle class ideology to which all the participants broadly subscribe. Furthermore, it is at least possible that participants would be conscious of the effects of their utterances on those outside their class and might make them in a way designed to enlist their support. Analysis exclusively at the level of interest groups ignores the social processes which shape the social structures within which the interest groups themselves are situated.

Not all work which deals specifically with the emergence of law, fails to consider the limitations imposed on interest groups by social and ideological structure. One of the classic works of English scholarship, Dicey's Law and Public Opinion in England during the Nineteenth Century⁵⁰ has direct relevance to this problem. It can hardly be described as an empirical study as Dicey himself says that 'it cannot claim to be a work of research; it is rather a work of inference or reflection'.⁵¹ Nevertheless, it is a pioneering attempt to analyse the links between the emergence of law and ideology and therefore deserves to be set against more modern sociological conceptualizations.

Dicey argues that legislative development in England in the 19th century can be divided into three approximately equal periods 'during each of which a different current or stream of opinion was predominant, and in the main governed the development of the law of England'.⁵² These were (1) the Period of Old Toryism or Legislative Quiescence, (2) the Period of Benthamism or Individualism and (3) the Period of Collectivism or Socialism.

The crucial element in Dicey's analysis is the meaning he gives to 'public opinion'. Sometimes he equates it with 'thought'. Thus, in the preface to the first edition of his work, he refers to his 'endeavour to bring the growth of English laws during a hundred years into connection with the course of English thought'.⁵³ On other occasions he limits public opinion to that which he regards as relevant to the emergence of law;

'that kind of public opinion which, since it has told on the course of legislation, may with strict propriety be called law-making or legislative public opinion, and is recorded either in a statute-book, which contains the laws enacted by Parliament, or in the volumes of the reports, which contain the laws indirectly but not less truly enacted by the Courts'.⁵⁴

There is a measure of tautology in this definition.⁵⁵ If opinion is that which is reflected in law it can hardly be an independent variable shaping the law. However, if one accepts that he means that opinion exists before it is given its shape in law then Dicey at times comes close to arguing that law-making opinion is a reflection of the interests of the ruling class:

[I]n matters of legislation men are guided in the main by their real or apparent interest. So true is this, that from the inspection of the laws of a country it is often possible to conjecture, and this without much hesitation, what is the class which holds, or has held, predominant power at a given time.'⁵⁶

Viewed in isolation it almost seems as if Dicey has here become a supporter of a conflict theory of law. However, this view is again qualified by his conception of opinion not as a monolithic whole but as a force containing 'counter-currents and cross-currents'.⁵⁷ Counter-currents are remnants of public opinion from a previous era which serve to delay the reflection of the dominant opinion in law. A cross-current is an opinion 'in a measure independent of, though perhaps not directly opposed to, the dominant legislative creed of a particular era'.⁵⁸ These cross-currents reflect the 'peculiar position or prepossessions of particular classes',⁵⁹ i.e. special interest groups such as the clergy, the army, or the professions. At this stage Dicey comes close to adopting a pluralist, interactive model.

Finally, Dicey is also alive to the reciprocal effect that law-making could have on public opinion. Like Paulus he recognizes that the passing of

an act even if it were ineffective, could set in motion the development of a branch of law.

'A principle derives prestige from its mere recognition by Parliament, and if a law fails in attaining its object the argument lies ready to hand that the failure was due to the law not going far enough, i.e. to its not carrying out the principle on which it is founded to its full logical consequences. The true importance, indeed, of laws lies far less in their direct result than in their effect upon the sentiment or convictions of the public.'⁶⁰

Profound though Dicey's insights are, they do not succeed in providing a coherent theory of the link between ideology and law. The reason is that he ascribes a different meaning to opinion in each of the three periods he deals with. Legislative inertia in the first period is held to be due to a 'sentiment of conservatism'⁶¹ which passively reflected the interests of the ruling order rather than being a dynamic influence. Benthamism, on the other hand, Dicey sees as 'a definite body of doctrine directly applied to the reform of the law'.⁶² Here he equates public opinion with thought and claims that it has a 'direct and immense influence upon the development of English law'.⁶³ Collectivism again is 'rather a sentiment than a doctrine'.⁶⁴ Its influence is therefore much more diffuse than that of Benthamism.

In his analysis, Dicey tends to concentrate on the profound influence of 'thought' above substantive interests and accordingly pays relatively little attention to the relationship of 'thought' to social structure. Because he has no conception of the dynamics of social change Dicey is at a loss to explain the formation of public opinion. Thus in his conclusion he again mystifies 'opinion':

'[E]ach kind of opinion entertained by men at a given era is governed by that whole body of beliefs, convictions, sentiments, or assumptions, which, for want of a better name, we call the spirit of an age.'⁶⁵

Some empirical emergence studies discount the significance of public opinion entirely.⁶⁶ The argument of this thesis is however, that sociological studies of the emergence of law, whilst adopting many of the insights suggested by Dicey can deal more precisely with the interrelationship among social structure, opinion (ideology) and law.

There is an important sub-group of empirical studies of the emergence and enforcement of specific pieces of legislation which has attempted to

deal with the influence of ideology by stressing that new laws are enacted not only for their instrumental qualities but because they have symbolic meaning to those responsible for them. This distinction between the instrumental and symbolic dimensions of legislation has been applied in an empirical study by Joseph Gusfield.⁶⁷ In his discussion of the American Temperance Movement he emphasized that those responsible for the enactment of the laws governing prohibition were a status group, the established Protestant, rural section of the middle class. This group did not stand to gain any material advantages from the legislation they proposed. However, a law prohibiting the use of alcohol would enshrine their values in legislation and thus show that they, and not the recent, hard-drinking immigrants were in command. Accordingly they pressed for such a law even though it was practically unenforceable. Gusfield concluded :

'Law can thus be seen as symbolizing the public affirmation of social ideals and norms as well as a means of direct social control. This symbolic dimension is given in the statement, promulgation, or announcement of law unrelated to its function in influencing behavior through enforcement.'⁶⁸

Carson, and subsequently Burman, have developed Gusfield's dichotomous model by applying it to other spheres of legislation and pointing out that symbolic dimensions are not inherent in the law, but emerge as law is introduced and enforced in society. Thus Carson in his discussion of early factory legislation⁶⁹ commonly shows how attempts at legislative innovation that were initially supported for instrumental reasons by workers as well as some factory owners, gained symbolic overtones which caused the two groups to adopt opposing attitudes. In the course of the legislative battle the factory owners eventually managed to have legislation passed which did not entail a symbolic threat to them, thus freeing them to pursue their instrumental objectives again. Carson's analysis is extremely useful because it relates the specific issues surrounding factory legislation to the broader ideologies of the nascent manufacturing (middle) and working classes. He points out that at the particular historical juncture at which the factory legislation he discusses was introduced, class formations and ideologies were in a state of flux as the old order had been emasculated by the industrial revolution and a new social structure was still in the process of being formed.⁷⁰ Consequently, he is able to describe the legislative process as both forming and being formed by social pressures.

Carson's approach is further advanced by Burman⁷¹ who applies the model of emergent instrumental and symbolic properties of law to the process of law enforcement as well. In his study of imperial law enforcement in Southern Africa he found that foreign law could be imposed on a captive population and would eventually be accepted by them as the symbolic costs were not too high. If, however, they were exorbitant, as in the case of Basutoland, where the inhabitants were insulted by an attempt to disarm them, the whole colonial legal system might be rejected, even if it had short-term instrumental advantages.

The studies by Carson and Burman demonstrate that empirical work need not necessarily proceed from the uncomplicated conceptions of social process and social structure adopted by Aubert, Chambliss and Paulus. Although they do not deal in detail with the larger theoretical concerns of classical sociology, they are, as shall be pointed out below, not incompatible with the concerns which motivated Weber and some Marxist thinkers to regard the sociological study of law as a key question in the understanding of the reproduction of modern society.

Carson's work can be criticized on the grounds that the analysis of a specific piece of legislation is difficult to generalize.⁷² Thus MacCormick notes:

'Carson's fascinating account of the emergence of the factory legislation in Britain ... may disconfirm some general theory, as it evidently disconfirms the "commonsense" view of how the Factories Acts came into being. But it does not and cannot of its own force establish some new grand theory. It is necessarily suggestive and not conclusive.' ⁷³

The same criticism can be applied to all the studies in this section. What is required is that they be situated clearly in terms of grand theory. In this way the contribution of such studies to the understanding of the relationship between agents and structures of power, bureaucratic institutions, the professions and ideology can be made explicit.

III. The emergence of law in sociological theory (grand theory)

A) Weberian sociology of law

In the studies discussed so far the question of what law is and at what level law should be analysed has been disregarded either by analysing

a specific law or by analysing a specific social problem area and examining how steps that are 'obviously' law-making, such as the activities of the legislature and the courts, were introduced to cope with the problem. In Weber's work, however, the conception of law used is such that it actually interpenetrates his discussion of the social forces which shape law in modern capitalist society. This complexity is not at all apparent from his formal definition of law:

'An order will be called law if it is externally guaranteed by the probability that coercion (physical or psychological), to bring about conformity or avenge violation, will be applied by a staff of people holding themselves specially ready for that purpose.'⁷⁴

From this definition of law it appears as if Weber, as a sociologist, is interested only in law in forms which are actually or potentially empirically observable in all societies. In fact the contrary is the case. For Weber law exists not only as a type of order (command), but also as a mode of thought. Indeed Weber's sociology of law is primarily concerned with explaining how legal thought emerged in what Weber appears to regard as its 'purest' form, formal legal rationality.

In order to understand this, one must examine Weber's classification (ideal types)⁷⁵ of various modes of legal thought. The key element in the classification is the concept of rationality.⁷⁶ Weber consistently regards rationality as an emergent quality of law. He stresses however that a body of law can be 'rational' in several different senses depending on which of several possible courses legal thinking takes towards rationalization.⁷⁷

Rational law-making i.e. law-making guided by general rules, may be substantive or formal. Law-making is substantively rational in as far as it is guided by the principles of an ideological system other than that of law itself.⁷⁸ Formal rationality, on the other hand, appears to be dependent on a logic unique to the law. It can manifest itself in two forms: extrinsic formality when significance is ascribed to symbolic external acts observable by the senses, and logical formality. The latter category of logical formal rationality is particularly important. In this approach

'where the legally relevant characteristics of the facts are disclosed through the logical analysis of meaning and ... definitely fixed legal concepts in the form of highly abstract rules are formulated and applied'.⁷⁹

Weber regards logical formal rationality as the epitome of legal (and indeed all) rationality. He realizes that this approach is in sharp contrast to law based on substantive rationality. 'However [he argues] the peculiarly professional, legalistic, and abstract approach to law in the modern sense is possible only in the measure that the law is formal in character.'⁸⁰

Emergence studies in the Weberian sociology of law therefore are largely equated with the study of the emergence of formal legal rationality. In Weber's words:

'Our task is now to find out how the various influences which have participated in the formation of the law have influenced development of its formal qualities.'⁸¹

To understand law-making one also has to understand the political processes which underpin it. In order to explicate these processes Weber constructed a further series of ideal types which elucidate the exercise of political power. Power, Weber argues, where it is not exercised by means of the direct expression of interests in a formally free market, has to be expressed as a form of domination. In modern society, and as far as law-making is concerned, the state is the most important form of domination as it '(successfully) claims the monopoly of the legitimate use of physical force within a given territory'.⁸² The apparatus of domination can take three forms, each of which is legitimated by a corresponding set of beliefs, i.e. by a corresponding ideology. The first form, traditional domination (which rests on the authority of the 'eternal yesterday'⁸³) and the second, charismatic domination (which rests on the personal appeal of the ruler⁸⁴) do not rely on rationality as a mode of legitimation to the same extent as the third, legal domination. Under legal domination persons obey the law rather than the persons implementing it. Legitimation of legal domination is grounded in a 'belief in the validity of legal statute and functional "competence" based on rationally created rules'.⁸⁵

The 'apparatus' that implements the system of legal domination is limited by the same legal rules as limit the exercise of power.

'This organization is continuous; its officials are subject to rules that delimit their authority, institute controls over its exercise, separate the private person from the performance of official functions, and require that all transactions be in writing in order to be valid.'⁸⁶

In other words power is exercised through a bureaucracy.⁸⁷

In each case the existence of the system of domination depends on the acceptance of the legitimacy of the system by both the rulers and the ruled. Beliefs of this kind are not only philosophical. The success of the domination depends largely on the extent to which they are shared by the ruled and the rulers.⁸⁸

Where one mode of domination is paramount, others can continue to exist and thus to provide additional legitimation for the authorities. It is also important to note that these modes do not form a developmental sequence. That is, a charismatic ruler who oversteps the mark can be replaced by a traditional ruler, who again can be usurped by someone showing charismatic qualities, and so on. This does not apply to legal domination which, because of the overwhelming efficiency of bureaucracy (and technology) can only be supplanted by a régime which retains rational procedures and therefore, Weber would argue, a variant form of legal domination.⁸⁹

Weber regarded the emergence of domination based primarily on legal rationality as unique to modern Western society.⁹⁰

Since legal rationality is seen as a type of legal thought it is clear that, in Weber's model, law is a central element in the conceptualization of modern Western society. For Weber rationality found its highest expression in bureaucracy on the one hand and in legal formalism on the other. These two serve to support each other in modern society.⁹¹

The question then arises: how did the convergence of bureaucracy and legal rationality come to predominate in modern Western society? In his sociology of law, Weber provides a model of how the process of rationalization might take place.

'From a theoretical point of view, the general development of law and procedure may be viewed as passing through the following stages: first, charismatic legal revelation through "law prophets"; second, empirical creation and finding of law by legal notables...; third, imposition of law by secular or theocratic powers; fourth and finally, systematic elaboration of law and professionalized administration of justice by persons who have received their legal training in a learned and formally logical manner.'⁹²

Following Bendix, Weber's four categories can be simplified to three: law-making by 'law prophets', by established authority and by legal notables (professionals).⁹³ In this form they fit more closely the way in which Weber actually explains the emergence of law. The first two of these three correspond directly to modes of domination. All three gradually lead to the growth of rationality in law. Thus even charismatic law-making, Weber noted, is soon bound up in rigorously formal procedures which lead to categories of law being distinguished and which provide an element of rationality in the formulation of distinctions between legal problems.⁹⁴

More importantly authoritative legal pronouncements based on traditional (patrimonial) domination tend towards consistency as states become more dependent on a central organization, e.g. to collect taxes. These organizations come to be manned by officials who need consistency in order to further their careers and thus support the introduction of consistent and therefore rational laws. It is important to note that the conditions which Weber sees as encouraging the rationalization of law from this source are the same conditions as provide for the emergence of bureaucracy in Western Europe.⁹⁵

The influence of the pronouncements of legal notables is particularly interesting in as far as it stresses the importance of a status group in the development of the rationalization of law. On the continent the important status group was the body of law professors at the universities. They were relatively emancipated from direct commercial control and set about constructing from a Roman law base a body of law composed of a logically consistent and gapless system of norms which would be applicable in all cases. The legal profession found this approach attractive, Weber argued, because the 'logical systematization of the law has been the consequence of the intrinsic intellectual needs of the legal theorists and their disciples'.⁹⁶ Such formally rational law was popular in areas where the central administration was weak since it could provide a basis for agreements.

In England, however, legal notables as a status group operated differently. They were not based at universities but were organized into guilds. The law practised there was not formally rational but developed from case to case.⁹⁷ It continued in this form long after continental law had become more formally rational.

Paradoxically, since formal legal rationality is supposed to go hand in hand with modern capitalist society, England proved to be the first modern industrial society. Weber explained this paradox in two ways. First, lawyers organized as guilds were powerful enough to resist change. Second, they were closely allied with the owners of fixed property who were their main clients and who were the only people who could afford to pay lawyers' fees. The result was that justice was denied to those of inadequate means and that the law as shaped by the lawyers, acting on behalf of their property-owning clients, was not incompatible with the development of industrial capitalism.⁹⁸

Weber's critics⁹⁹ have found these explanations unsatisfactory and have suggested that the deviant example of English law can be explained more successfully using a different model. Thus Walton has argued that legal change in both systems can be explained in terms of the rise of capitalism: 'For though both develop strong legal systems and healthy capitalism they do so at different speeds, with a different emphasis in legal thought.'¹⁰⁰ Legal thought of the kind that Weber analysed, therefore does not seem to be a crucial element in this development. However, as shall be argued when discussing Marxist theories of law - on a variation of which Walton's approach is based - this does not exclude 'law' from playing a key role.

The cardinal weakness is that Weber's implicit definition of law as formal rationality, although broader than his original definition of law, is still too narrow to include the full complexities of law as a social phenomenon. Because he focuses on the emergence of formal rationality he fails to lay sufficient emphasis on the largely similar forms of law which became salient in England and on the continent with the rise of industrial capitalism. Kahn-Freund¹⁰¹ has convincingly demonstrated that when industrial capitalism has been established differences in legal traditions in fact mask far larger similarities in legal form.

Weber does note that the differing legal categories of different legal systems might disguise economic similarities¹⁰² and that 'economic interests are among the strongest factors influencing the creation of law'¹⁰³ but, as a result of his concentration on formal legal rationality, does not apply this insight consistently. Thus he attributes the changes towards formal rationality introduced by continental jurists to 'intrinsic intellectual needs' and does not seek the primary explanation for the changes

in their economic significance as a basis for trade in a politically fragmented area. In contrast, for the conduct of English lawyers, who do not develop their law according to what Weber regards as being typically legal, i.e. formal legal rationality, Weber immediately finds economic motives.

The stress on the development of formal rationality in law means that Weber tends to gloss over the fact that law can also act as an ideology legitimating a particular form of domination. Weber is not unaware that there are other values beyond the acceptance of rationality in general which contribute to the dominance of legal rationality in the modern state. However, he does not discuss them in his consideration of the emergence of formal legal rationality, but (as outlined below) under 'natural law' while dealing with power struggles in the already constituted modern state.

In spite of all its weaknesses Weber's sociology of law is important in that it situates legal rationality in terms of emergence and reproduction of Western social order. Whilst there might be more to law than legal rationality a specific mode of 'rational' thought appears at first glance to be a characteristic of both the legal rules laid down to control new technology and of the bureaucracy designed to apply them. Expressed differently, 'legal' rationality appears to structure both these aspects of the law relating to technology. Its influence in this area can therefore be investigated empirically and the role which legal professionals play in its introduction examined, even if rationality is held not to be the dynamic element in the emergence of industrialised society.

B) Weber on natural law in modern society

Apart from his general theory of the emergence of legal rationality, Weber also considers the significance of natural law philosophies as a factor contributing to the legitimation of legal domination. In modern times natural law is the most important source of such values as religious revelation and the authoritarian sacredness of tradition have lost their significance. Weber defines natural law as follows:

'Natural law is the sum total of all those norms which are valid independently of, and superior to, any positive law and which owe their dignity not to arbitrary enactment but, on the contrary, provide the very legitimation for the binding force of positive law. Natural law has thus been the collective term for those norms which owe their legitimacy not to their origin from a legitimate lawgiver, but to their immanent and teleological qualities.' 104

The content of natural law can vary widely. Thus natural law can contain values which justify a revolutionary overthrow of the existing order by disclosing existing injustices. On the other hand Weber notes that "natural law of the historically real" has been quite influential in opposition to the type of natural law which is based upon or produces abstract norms'.¹⁰⁵

Weber distinguishes between two kinds of natural law - formal and substantive. The formal category is, as he points out, misleading, since an entirely formal natural law would have no content as it would consist wholly of general legal concepts, yet natural law is, on Weber's own definition, outside such concepts ! Nevertheless, Weber persists with this category. Formal natural law is equated with the contract theory of society which arose in the 17th and 18th centuries as a result of the Renaissance and 'the idea, particularly indigenous to England, that every member of the community has certain inherent natural rights'.¹⁰⁶ Formal natural law assumed that voluntary rational contracts form the basis of the state. It assumed the existence of a system of rights acquired by 'purposive contracts'. As far as the economic system is concerned, it rested 'upon the basis of a community of economic agreement created by the full development of property... and the freedom to dispose of property'.¹⁰⁷

What Weber is in fact describing is an ideology used to justify a particular economic system. This ideology is expressed in legal terms. It thus shows the ability of law, in the form of an abstract concept like contract, to function both as a regulatory institution and as an ideology. However, because he equates legal rationality with law, Weber fails to see it in these terms.

Weber does show some insight into the specific class base of natural law as ideology:

'Freedom of contract and all the propositions regarding as legitimate the property derived therefrom obviously belong to the natural law of the groups interested in market transactions, i.e., those interested in the ultimate appropriation of the means of production.' ¹⁰⁸

Formal natural law, Weber perceived, contained the seeds of its own intellectual destruction. From the beginning it was compelled to come to grips with certain existing institutions regarded as 'natural', such as

the law of inheritance, which could not be derived from freedom of contract. Yet it had to accept them as reasonable. By justifying such institutions, Weber argued, natural law 'reason' easily slipped into utilitarian thinking.¹⁰⁹ This was particularly true in England where 'from the very beginning, the English concept of "reasonable" contained by implication the meaning of "rational" in the sense of "practically appropriate"'.¹¹⁰ This intellectual drift continued until the formal qualities of natural law had virtually disappeared. A complete transformation took place 'as soon as the legitimacy of an acquired right came to be tied up with the substantive economic rather than with the formal modes of its acquisition'.¹¹¹

Substantive natural law is defined by Weber in terms of economic rights. He regards it as primarily concerned with 'socialist theories of the exclusive legitimacy of the acquisition of wealth by one's own labor'.¹¹² Such a view is directly opposed to formal rational law, because, if carried to its logical conclusion, it rejects

'not only all unearned income acquired through the channels of inheritance or by means of a guaranteed monopoly, but also the formal principle of freedom of contract and general recognition of the legitimacy of all rights acquired through the instrumentality of contracting'.¹¹³

Substantive natural law also had its class base. It was, Weber remarked, attractive to landless peasants and it also played a part in the ideology of the industrial proletariat but was not, in his opinion, of great ideological significance.¹¹⁴

In his outline of the rise and fall of natural law as an ideology justifying legal domination in modern capitalist societies, Weber comes close to constructing a model of change in ideologies supporting law. Thus he notes that at the outset of capitalism formal natural law played a central part in the legitimation of legal domination. It was gradually replaced by substantive natural law which, in as far as it was influential, (and implicitly this depends on a clash between classes) diverted the law from formal rationality and undermined the system of domination. However, substantive natural law did not achieve much success because at the very time when it was proclaimed by the intelligentsia, as spokesmen for the masses, it was 'already being disintegrated by the rapidly growing positivistic and relativistic-evolutionistic skepticism of the very same intellectual strata'.¹¹⁵

The loss of influence by the doctrine of natural law had, according to Weber, two paradoxical by-products. First the eclipse of the 'metajuristic implications of the law' led to scepticism towards the dignity of specified laws, but in general contributed to the acceptance of the power of authorities who claimed dominance on purely formal legal grounds.¹¹⁶

The second was a change in the attitude of lawyers. In an earlier period, i.e. during the Enlightenment, they had adopted a revolutionary attitude based on their belief in natural (law) rights. However, once the '"rule-boundedness" of the social order had been achieved', lawyers accepted the law as it stood, viewing the law more as 'regulation' than a source of rights.¹¹⁷ The consequence was that the legal profession had become a major conservative force opposed to change on the basis of substantive natural law and tending to favour duly constituted authority.

Weber never explicitly describes the change in the ideology justifying law, except in terms of intellectual development. It is particularly noticeable that he underplays the significance of social and economic change since he mentions links between various types of natural law and specific social classes. In the sections of his work not dealing directly with law Weber does connect the concepts of class with economic foundations. Thus Gerth and Mills note that, according to Weber, '[c]lass situations are determined by the relations of the market; in the last analysis, they go back to the differences between the propertied and the non-propertied'.¹¹⁸

In the section of this chapter dealing with the synthesis of various approaches it will be argued that it is possible to combine Weber's insights on the rise and fall of natural law with a model of legal emergence which makes provision for the shifting class bases of legal ideology as well as the direct economic significance of legal forms. In this way a foundation can be laid for applying Weber's model of the changing role of natural law as an ideology structuring the development of a particular body of law.

C) A Marxist theory of law ?

One might expect, because of the relatively few references that Marx himself makes to law, to find very little in Marxist thought to contribute to the understanding of the emergence of law. In fact, this is not the case at all. It will be argued below that the theoretical development of the sociology of law within a broadly Marxist tradition can go a long way toward

providing a dynamic model of the emergence and reproduction of law in industrializing societies, within which the insights of Weber and those noted in the empirical studies discussed above, can be subsumed. The approach in this section will be to state as briefly and uncontroversially as possible the elements of Marx's thought which seem most relevant to the study of the emergence of law. In three subsequent sections these elements will be considered in greater depth in the light of more recent approaches to the study of law from within the Marxist tradition.

Unlike Weber, Marx never attempted to define law.¹¹⁹ Generally Marx refers to law as a form of ideology. Law is usually classified with other social phenomena such as religion and politics:

'[A] distinction should always be made between the material transformation of the economic conditions of production, which can be determined with the precision of natural science, and the legal, political, religious, esthetic, philosophic - in short, ideological forms in which men become conscious of this conflict and fight it out.' 120

These ideological forms are situated by Marx in the superstructure which he contrasts with the economic foundation (or infrastructure). Marx explains the relationship between them in a key passage:

'In the social production of their life, men enter into definite relations that are indispensable and independent of their will, relations of production which correspond to a definite stage of development of their material productive forces. The sum total of these relations of production constitutes the economic structure of society, the real foundation, on which rises a legal and political superstructure and to which correspond definite forms of social consciousness.' 121

Apart from the foundation/superstructure dichotomy, several other key propositions of Marx's theory are revealed by a paraphrase and slight amplification of this quotation. For Marx the social production of life is the starting point for analysis. Men produce goods in order to live and they produce them in the company of others. Their relationships to each other and their relationships to objects are governed by ('correspond to') the particular mode of production within which they are operating. Their relationships to each other are generally expressed in the form of relationships of social class.¹²²

Different modes of production do not merely exist or are not 'chosen' but have a history of their own. New modes of production develop out of the inherent contradictions in earlier systems and are constantly transformed by changes in the (technical) means of production and in the social relations of production - the means of production and the relations of production are the twin components of a given mode of production.¹²³

At the same time as which a mode of production is evolving the social relationships - classes - which it generates are producing ideas and institutions. These tend to reflect the views of the economically dominant class:

'The class which has the means of material production at its disposal consequently also controls the means of mental production, so that the ideas of those who lack the means of mental production are on the whole subject to it.' 124

In another passage this general statement is made specifically applicable to law:

'[Y]our jurisprudence is but the will of your class made into a law for all, a will, whose essential character and direction are determined by the economical conditions of existence of your class.' 125

The ideas of the dominant class are expressed in ideological forms which legitimate the position of the dominant class. These ideological forms have some internal coherence, but neither their continuity over a period of time, nor changes which occur can be explained purely in terms of their internal logic. As Giddens explains:

'Ideas do not evolve on their own account; they do so as elements of the consciousness of men living in society, following a definite Praxis.' 126

The attraction of Marxist theory as a framework for the study of the emergence of law is that it views society as a process in which specific social and economic relationships are produced and reproduced. Social structure is therefore related historically to social process. The question is whether Marxist theory can provide insights into how law (or particular bodies of law) is likely to develop. It is not immediately apparent that

it can do so within the framework of concepts which have thus far been described: for, (objection 1) if Marxist theory as elaborated to include an understanding of the role of law in the reproduction of social order were to hold that law is completely independent of the economic foundations of society it would be unable to explain the emergence of law. Similarly, (objection 2) if the economic influence of law were dominant in the shaping of economic development at all times, the significance of a sequence of modes of production with potentially differing relationships to the superstructural components would disappear and with it the predictive elements of Marxist theory. Finally (objection 3), if law were totally irrelevant to Marxist theory, it would not be able to generate any theory of legal emergence at all.

It would be possible to attempt to refute these objections by comparing various texts in which Marx has touched upon law. However, the answers appear more clearly from the work of authors who have addressed themselves specifically to the analysis of law within the Marxist tradition. By concentrating on their interpretations added insights can be gained.

D) The social functions of law

The first two of these objections are boldly tackled by the Austrian, Karl Renner, in his book The Institutions of Private Law and their Social Functions.¹²⁷ He does not consider the third objection as it does not appear to have occurred to him that the changing functions of what he calls 'legal norms', i.e. legal concepts, might not be the stuff of Marxist analysis.

The objection concerning the extent to which law is shaped by the mode of production is 'overcome' by adopting a jurisprudential stance of extreme analytic positivism.¹²⁸ This means that Renner regards 'basic' legal concepts such as property and even contract as essentially immutable (and unchangeable). A legal concept is conceived of as 'an abstract principle... an empty legal frame'. This frame is only given social content 'by hard facts below the plane of law'.¹²⁹ In other words the economic foundation determines the function but not the form of law.

As a Marxist analysis Renner's approach to the study of law has both strengths and weaknesses. Its major strength lies in his detailed historical analysis of how legal concepts can serve to disguise the true nature of an

economic reality and thereby contribute to its reproduction. Renner introduces his analysis by describing an idealized¹³⁰ system of simple commodity production in which legal concepts such as property directly reflect the existing economic order. For Renner the concept of property or dominium in its pure and unchanging legal form consists of 'a person's all-embracing legal power over a tangible object'.¹³¹ In the system of simple commodity production the owner exercises untrammelled physical and economic control over his property as well, for it consists of the contents of his household which he himself uses to produce commodities. Since the owner is largely surrounded by other owners of similar status, his control is absolute, 'as no neighbour is interested in interfering or would stand interference'.¹³²

Renner relates simple commodity production to emerging capitalism. With the rise of capitalism the economic foundations change as do the functions of legal concepts. Property does not remain in the physical possession of the owner. It becomes something administered by managers and used by wage-earning workers, until its only remaining function is to provide the legal owner with unearned surplus value. In spite of these dramatic changes in economic function, its legal form remains unchanged. The legal form therefore disguises the change in economic realities.¹³³

This change in the function of property under capitalism does not occur in isolation from other legal concepts. The concept of contract, and in particular the contract of employment, comes to play an increasingly central role in support of property.¹³⁴ Under the system of simple commodity production, workers, such as apprentices, had been compelled to remain in employment by means of public law.¹³⁵ In capitalism, however, workers are theoretically free from compulsion by law and can freely choose to enter into contracts of employment. In practice these workers are compelled by economic necessity to enter into such contracts. The 'abstract principle' of freedom to contract therefore really serves as an indirect way of controlling labour. At the same time it provides the property owner with a direct and absolute power of command over the labourer who has 'freely contracted' to give the owner this authority. Law, in the form of the concept of the free contract of employment, therefore mystifies the true nature of the relationship between the capitalist owner and the employee.¹³⁶ In the analysis of law relating to technology in this thesis, the question whether concepts of property and contract are also used to disguise the

nature of the control of new technology will be considered.

Renner's solution to the problem of the relative autonomy of law, however, also has its shortcomings. His assumption that legal forms are themselves immutable and therefore not influenced by changing economic circumstances (except perhaps at some undetermined stage in the future)¹³⁷ makes it impossible for him to analyse the relationship between legal forms and the economic foundations of society. Renner's conception of law was shaped by the legal culture within which he worked. To some extent jurisprudential approaches, such as legal realism, which do not regard legal concepts as unchanging, have undermined the extreme legal positivism of Renner's position. Other Marxist writers, such as Pashukanis, have severely criticised Renner's solution to the problem of the autonomy of law, stressing that the notion of unchanging legal concepts is itself an ideological form.¹³⁸

The second objection concerning the reciprocal influence of law on economic development, is refuted by Renner with a virtual denial of the influence of law. Private law forms would seem to be able to adapt to almost any economic circumstance, but cannot fundamentally alter the course of economic development. In Renner's words:

'[T]he lever which the law uses upon social facts is too short to control them. Legal ties are mere threads compared with the herculean power of natural life. Yet this Hercules stretches his limbs so gradually and imperceptibly, that the threads do not suddenly snap in all places.'¹³⁹

Renner is equally sceptical about the possibility of legislative changes in public law changing the economic foundation of society. He labels such attempts as 'decretinism' dismissing them contemptuously and attributing 'a profound faith which believes legislation capable of performing miracles' to 'the emotional disposition of the masses after every successful revolution'.¹⁴⁰

Renner's contempt for revolution by legislation does not mean that he ignores the very real intervention of public law in more advanced capitalism, nor does he regard this intervention as insignificant. On the contrary, he notes a tendency to increasing intrusion of public law and argues that it is to be encouraged, for he sees the limitations placed on private law rights to control property as part of an evolutionary process whereby 'elements of a new order have been developed within the framework of an old society'.¹⁴¹

In spite of his perceptive observation of the increasing role of public law, Renner does not provide a model which can explain why the state intervenes in this way rather than by changing existing private law. Instead he resorts to vague generalizations about the evolutionary certainty of change as a result of increasing and apparently inevitably beneficent intervention. Later Marxist writers, as shall be seen below, do attempt to provide a framework for an answer to this question. They are able to do so because they recognize that the private law - public law distinction (like private law concepts themselves) is not immutable, but that it is bound up in the nature of the capitalist mode of production. Renner completely fails to analyse this distinction. He thus overlooks the point that, as his generally sympathetic editor Kahn-Freund notes, '[t]he "neat" separation between public and private law ... served a very definite ideological purpose'.¹⁴²

E) Law as hegemony and state power

Whilst Renner simply assumed that law could be studied from a Marxist point of view, modern sociologists of law have been forced to defend the relevance of a Marxist approach to law. Objections have come from theorists such as P Q Hirst who claim that Marxism, particularly as developed in Marx's later works, is a 'science' with its own objects of enquiry.¹⁴³ A point of departure which accepts 'the given actuality of crime and law' is, according to Hirst, 'therefore a more or less "revisionist" activity in respect of Marxism; it must modify and distort Marxism to suit its own pre-Marxist purpose'.¹⁴⁴ This charge has been strongly denied by M Cain in a recent article in which she argues that law is not '"merely" ideological' but that it is a central element in the key Marxist concepts of hegemony and the state as they manifest themselves.¹⁴⁵

The concepts of hegemony and the state as used by Cain, are not derived directly from Marx but rather from the writings of the Italian, A Gramsci. In his Prison Notebooks Gramsci argued that, for heuristic purposes,¹⁴⁶ one could distinguish

'two major superstructural "levels": the one that can be called "civil society", that is the ensemble of organisms commonly called "private", and that of "political society" or "the state". These two levels correspond on the one hand to the function of "hegemony" which the dominant group exercises throughout society and on the other hand to that of "direct domination" or command exercised throughout the State and "juridical" government'. 147

Gramsci further argued that active intervention at both these levels could significantly shape future developments as long as the infrastructural possibilities for change existed. For Gramsci, Marx's writings which emphasise the (economic) infrastructure simply indicate 'that a given structure gives rise to a field of possibilities which relatively permanent and countervailing forces seek to utilize in opposite ways'. 148

In his own work Gramsci was concerned with understanding these forces in order to provide a guide for the utilization of opportunities by the working class. Cain has attempted to develop the concept of hegemony in relation to law so that the possibilities of legal change can be assessed.

'Hegemonic control' is, for Cain, the ability to determine common-sense understandings in society. It is in this sense that the term 'ideology' is often loosely used. She, however, makes a useful distinction between ideology and hegemony and uses the term 'ideology' to designate 'developed and elaborated systems of thought'. 149 Ideologies are subject to hegemonic control by the common-sense notions that underpin them and are also shaped by their further elaboration in terms of their own internal logic. Cain argues that it might happen that different groups dominate at the levels of hegemony and ideology. She illustrates the point in a way which relates it directly to the sociology of law:

'[L]egal ideology is rooted in bourgeois common sense. Lawyers, however, in elaborating conceptions of legal rights grounded in these notions, may find themselves in conflict with certain bourgeois fractions. Outcomes of such contradictions will be affected by the structure of the legal organization which makes such claims to autonomy possible and tenable. It becomes a question, then, of organisation and of class and group dependencies and alliances.' 150

The advantage of this approach is that it provides a framework for analysing the variations in common sense and ideology which exist between groups within a social class and which also cut across class boundaries. In order to develop this approach Cain draws a distinction between 'hegemonic

fractions' and 'hegemonic sectors'. The former exist within one class and correspond to (economically based?) fractions of it. Hegemonic sectors however, are 'ideologically constituted' groups and cut across fractional and even class boundaries.¹⁵¹ Their particular ideology might be a resource in a class struggle. In order to study these groups, Cain argues, one can use the techniques of non-Marxist sociology.¹⁵² Hegemonic sectors cannot be studied in isolation from social structure, (i.e. merely by analysing the evolution of ideas) nor can they be analysed simply in terms of social classes determined by the mode of production, since they do not correspond to the class divisions of society.

It is important for Cain's analysis of law that a conceptual distinction be drawn between hegemonic domination and political domination - i.e. control of the state. In order to do this the state must be clearly conceptualized. Cain adopts a definition of the state as that which has coercive power¹⁵³ and she attacks those who include institutions which create hegemony (cf. Althusser's ideological state apparatuses)¹⁵⁴ as part of the state. This definition is much narrower than that adopted by most other Marxist students of the state, but at the same time, in common with many of them, accepts, without analysis, a distinction between the 'political' and the 'economic'.¹⁵⁵

Cain, like other Marxist writers such as Althusser, Poulantzas and Miliband,¹⁵⁶ accepts that the state is a separate force which has key coercive functions. Althusser and Poulantzas include law in the repressive state apparatus but note that it has ideological functions as well.¹⁵⁷ Similarly Miliband deals at length with institutions outside the state system which serve to legitimate it.¹⁵⁸ It is conceivable that he could include at least some elements of the legal system such as the professional organizations of lawyers in this category. The strength of the particularly narrow emphasis which Cain gives to the concept of the state, is that it allows a unique place for law which might be subsumed under the more general headings of 'ideology', 'state apparatuses' or 'the state' by other approaches. This is apparent from Cain's definition of law:

'Law constrains both hegemonically and coercively. Thus it is a point of articulation - though it may be a point of contradiction - between hegemonic and political structures. Law pronounces what is proper, and backs these pronouncements with threats of coercion. In law hegemony and coercion are integrally mixed: their unity constitutes the concept.' ¹⁵⁹

The stress on the dichotomous character of law can be useful in a descriptive model. A similar model has been deployed with great effect by D Hay in his analysis of the importance of the criminal justice system, and in particular the death sentence, in preserving, not only the property but also the domination, of the propertied ruling class in 18th century England.¹⁶⁰ Hay demonstrates how the majesty of the law - all its pomp and ceremony - was used to provide a platform from which the judges could articulate (in Cain's terms) their ideology. This ideology was in general agreement with the common-sense of the property-owning, ruling class. The legal ritual of the assizes succeeded in extending the hegemonic control of this common-sense to a wider audience. At the same time the coercive element of the law remained to back up its hegemonic claims. In practice the death sentence was often imposed but relatively rarely carried out. This flexibility of the law allowed various members of the ruling class - the judges, the local elites, and also the king, - to show that they could exercise coercive power by using their influence to have sentences commuted.

If one now returns to the first two potential objections raised above, at the end of the introductory section on Marx and law, one can see that the approach to law which Cain adopts will come to conclusions different from those of Renner. Cain's situation of the law at the centre of 'both hegemonic and political struggle for the working classes'¹⁶¹ indicates that it is to be regarded as an area which is not shaped directly by the mode of production. This does not mean that, like Renner, she regards the law or legal concepts as unchangeable. On the contrary, she stipulates no limits to legal change but regards law as something to be shaped by the class struggle at the hegemonic and political levels, rather than directly by the mode of production.

On the second objection, concerning the reciprocal influence of law her response is also different to Renner's. Her view is that changes in the law can undoubtedly have economic effects.¹⁶² She condemns as 'mechanistic' Marxist approaches which claim that this is not the case and argues that, whilst the economy might be determined 'in the last instance', this does not mean it is necessarily determined at any specific point in time.¹⁶³

The major strength of Cain's approach is that it liberates the Marxist conception of law from the clutches of positivist jurisprudence. Legal

forms are not beyond the reach of change - but themselves evolve in the course of the reproduction of social order. Moreover, the dichotomous definition of law enables one to understand the mystifying qualities of law which Renner describes while at the same time comprehending the influence of state power. One can speculate that the distinction between public and private law which Renner regards as immutable will be held to be of little real importance by Cain in her desire for a conception of all law as a possible locus for change. Her approach is therefore more flexible than Renner's and allows for a broader range of possibilities to be investigated.

The weakness of this approach is that it is so 'open' that it has little value as a predictive theory or explanation of continuing legal change. Thus, for example, in Hay's study which brilliantly explores the function of law in 18th century England, one finds no answer to the question of why the ruling class chose the means that it did to preserve its authority and property.¹⁶⁴ The description is couched in essentially static terms.¹⁶⁵

An allied weakness is that Cain accepts the category of the state without an attempt to situate its emergence firmly in the course of the development of a particular mode of production. This means that the framework that she, as well as Poulantzas and Miliband, adopts, unjustifiably attributes an ahistorical validity to the state.¹⁶⁶ The category of the state is conceived as if it were an unchanging given. Holloway and Picciotto argue that this leads to two major weaknesses in a position of the kind that Cain adopts:

'The ... failure of both Miliband and Poulantzas - and much the same can be said of Gramsci - to base their analyses of the state in the contradictions of the capital relation leads ... to two consequences of fundamental importance - firstly, they are unable to analyse the development of political forms, and secondly they are unable to analyse systematically the limitations imposed on state action by the relation of the state to the process of accumulation.' ¹⁶⁷

It is the argument of the next section that a Marxist approach can provide a convincing answer to these weaknesses without lapsing into a simplistic economic determinism of the kind which Gramsci and Cain attack.

F) Law and the 'state derivationists'

In the previous section law was dealt with directly in terms of Marxist concepts such as ideology/hegemony and the state. An alternative approach

in which law is seen as directly involved in the reproduction of the capitalist mode of production, is to be found in the work of the Russian Marxist Eugene Pashukanis¹⁶⁸ and also in the so-called 'state derivation' debate within German Marxism¹⁶⁹ in which Pashukanis' approach has been refined and extended.

The analysis proceeds from an observation of Marx that 'legal relations as well as forms of state are to be grasped neither from themselves nor from the so-called general development of the human mind, but rather have their roots in the material conditions of life...'.¹⁷⁰ In this context the 'material conditions of life' mean the modes of production and social conditions under which individuals produce and enter into relations with one another. In the bulk of their analyses both Pashukanis and the state derivationists concentrate on the capitalist mode of production and by following an abstract mode of reasoning conclude that both the forms of law and the forms of the state are central to this mode of production.¹⁷¹

Pashukanis argues that just as political economy begins in barter, law begins when the material conditions of life are able to provide for man, who as an 'egotistic managing subject', is in a position to operate in a 'goods-money economy'. Unlike Renner, Pashukanis believes that under a system of simple commodity production where each man produces all he needs, law will have no role at all. Robinson Crusoe's relationship to goods would be completely factual. Only when he wished to trade would he have to perceive his goods as property with value. In Pashukanis' words:

'Both value and the law of property owe their origin to one and the same phenomenon: The circulation of products which have become goods. Property in the juridic sense appeared because people were able to exchange goods only after they had donned the mask of owner and not because it entered their heads to endow each other with this legal quality. "Unlimited power over a thing" is merely a reflection of the unlimited circulation of goods.' ¹⁷²

The role of outside coercion in the creation of law is very limited.

In economic systems where barter played a relatively small role, law was not of central importance in the constitution of social and economic relationships.¹⁷³ However, as modes of production evolved, the exchange relationship became increasingly important and so did law. 'As the wealth of capitalist society takes on the form of a vast accumulation of goods, so the society itself seems to be an endless chain of juridic relationships.' ¹⁷⁴

When society has reached this stage law begins to develop twin forms. One finds a distinction between private and public law. This distinction has been defined by the German Marxists, Blanke, Jürgens and Kastendiek, as

'the separation... between the law (in the narrower sense) relating to the reproduction of bourgeois society (a law which pivots around private property) and the law relating to the structure and jurisdictional competence of public rule'. 175

For Pashukanis (and for Blanke, Jürgens and Kastendiek) private law is the basic form of law because it refers directly to the material interests of individuals. Public law in its most elementary form, is merely a reflection of the needs of private law. In even the simplest form of commodity circulation the distinction exists, because, if it is accepted that law only comes into existence when a dispute is settled, it means that a procedure for settling disputes and a means of enforcing the settlement is required.¹⁷⁶ The procedure for settling disputes belongs to the realm of public law and in later societies is controlled directly by the state. Moreover, the enforcement of settlements requires the presence of a force outside the control of the parties to the dispute. This force too is part of the state.

The distinction between private law and public law is of crucial importance in capitalist societies not only as a form of law but because it provides the basis for the distinctions between the 'economic sphere' and the 'political sphere'. This is a distinction which is accepted unquestioningly in bourgeois views of the nature of society. Private law clearly belongs to the 'economic sphere' as it relates directly to commodity circulation. Public law, however, immediately takes the form of a political struggle on how rights should be interpreted and on how coercive forces should be controlled. Yet private and public law are both forms of law and therefore inseparably linked.

In order to understand the limits and inadequacies of this distinction it is necessary to return to the problems inherent in the notion of simple commodity circulation. While early forms of barter would allow some circulation of commodities it can only exist as a fully developed form when labour power circulates as a commodity as well.¹⁷⁷ This only happens under capitalism, i.e. when labourers are not employed directly by property owners but rather employed to produce

surplus value. The result is that the equality which the law presumes to exist between commodity owners, clashes with the real inequality inherent in the context of capitalist production. The reason for this discrepancy is that all forms of commodities (except labour power) can circulate freely without their owners being involved. Labour power, however, is different:

'The owners of the commodity labour power carry together with the commodity themselves as concrete beings onto the market: figuratively, the worker as legal subject remains for ever in circulation never entering the factory, never shouted at by a foreman, sitting besuited in his car before the factory gates; the worker as concrete being puts on his blue overalls and becomes the "factor of production", a material function within the system of capital production, he acquires the form of variable capital.' 178

Under a capitalist system the forms of law remain the same as in an idealized system of commodity circulation. A distinction is maintained between public and private law. However, because of the nature of the capitalist mode of production, legally backed coercion presses differently on the capitalist and the worker. The protection which the law grants to the operation of the law of value means that subjects must behave in accordance with the demands of the capitalist economic process. In the case of capital this means that restrictions on the freedom to deploy capital are removed. In the case of workers it means that they must sell their labour at the market price. This leads to the prohibition or discouragement of 'artificial' combinations of workers.¹⁷⁹

In the sphere of production the law of private property also serves to confirm the law of value. This means that the capitalist is free to reorganize his production process by introducing technological and organizational changes. On the other hand this freedom greatly limits the power of the worker as he has no legal right of access to the means of production.¹⁸⁰

Law therefore has a dual effect. As far as commodity-owning capitalists are concerned, law, in its form of public law, ideally speaking, does not intervene. It is no more than a neutral third party guaranteeing relations between equals in the process of exchange. On the other hand, as far as workers in the productive process are concerned, the extra-economic coercive force (which, as has been seen, is a constant concomitant of the force of law)

'guarantees not just the possibility of buying and selling but also the compulsion to sell resulting from the division of the producers from the conditions of production. It guarantees the reign of capital in the private production process, i.e. the unrestricted employment of labour power for the purpose of producing surplus value.' 181

The result of this dual function of the form of law is reflected in the form which coercive power takes in capitalist society, i.e. the form of the state. In simple barter arrangements all that was required to guarantee contracts was an extra-economic coercive force. When, however, commodity circulation develops to the full, the modern state form necessarily arises as it has further functions to perform than merely guaranteeing contracts. In capitalism the state, like the law which it enforces, has dual functions. Blanke, Jürgens and Kastendiek put this very clearly:

'[T]he "state" (as a concrete structure) constitutes in essence a general force of coercion which confronts even the individual bourgeois (individual competing capital) as a separated, neutral instance, but which at the same time and only through this separation is, by virtue of its existence as a central force guaranteeing the law, a class force.' 182

The strength of this abstract analysis of the form of law and the state lies in its derivation of the form of law directly from the mode of production. As far as the general form of law is concerned it therefore refutes the objection that law might be autonomous, (or even relatively autonomous to some undefined degree), by denying that the basis of the objection, i.e. the distinction between infra-structure and superstructure, is relevant to an understanding of the general form of law and the state. In the words of Holloway and Picciotto:

'[A] materialist theory of the state begins not by asking in what way "the economic base" determines the "political superstructure" but by asking what it is about the relations of production under capitalism that makes them assume separate economic and political forms.' 183

The general form of law is such an integral part of the capitalist mode of production that it cannot be securely located in the superstructure. In E P Thompson's words : '"Law" was deeply imbricated within the very basis of productive relations, which would have been inoperable without this law.' 184 Instead, the emergence of this general form must be understood as part of the emergence of capitalism. Specific bodies of law do have a certain autonomy which depends on the actual historical evolution of capitalism. Their autonomy

is limited by the general forms of law as these are directly determined by the capitalist mode of production.

At the level of general form, law is part of the economic foundation and therefore cannot be regarded as shaping it.¹⁸⁵ In as far as specific bodies of law are used successfully to counteract crises in capitalism they clearly do have economic impact. In the short term therefore, since new modes of intervention are conditioned by their predecessors, law does shape its own economic foundations. The relationship of law to the economy cannot be determined in general terms for differing modes of production, since law has a specific relationship to the capitalist mode of production. In other modes of production, law would probably be of little economic significance, if any.¹⁸⁶

This approach demonstrates that law is not an 'epiphenomenal reflection of any set of relations of production'.¹⁸⁷ It is an essential element of commodity circulation on which the capitalist mode of production is founded. On the one hand this approach avoids the economistic conclusion that the state and the law simply and directly reflect the economic interests of the ruling class. On the other hand it also avoids the a priori acceptance of the categories of law and the state. By demonstrating how they were derived, it provides a logical framework for an answer to the question posed by Pashukanis in his Theory of Law and Marxism:

'[W]hy does the dominance of a class not continue to be that which it is - that is to say, the subordination in fact of one part of the population to another part? Why does it take on the form of official state domination? Or, which is the same thing, why is not the mechanism of state constraint created as the private mechanism of the dominant class? Why is it dissociated from the dominant class - taking the form of an impersonal mechanism of public authority isolated from society?' 188

Critics of the state derivationist approach have suggested that it is too deterministic; that by 'logically' deriving the course which the development of law and the state will follow, it minimises the significance of active capitalism.¹⁸⁹ It is suggested that such criticism can be overcome by historical work which uses the theorization of the derivationists merely as an analytical framework and remains sensitive to the significance of structure (including emerging social classes) which impinge upon the

development of law. In the synthesis below it is explained how the model adopted in this chapter is to be kept open in the historical analysis of the law relating to the control of new technology. Prior to this, however, the state derivationist approach is elaborated in two ways which are particularly relevant to this thesis: (i) by concentrating on a specific theoretical derivation of the state which pays particular attention to the significance of technological innovation and the class struggle; and (ii) by setting out the different historical stages of the derivationist approach. Both of these 'elaborations' will be used as guidelines in the historical part of this thesis.

(i) The state, technology and social class

State derivationists stress different aspects of the development of law in the course of the emergence of capitalism.¹⁹⁰ Particularly useful for this thesis, because it considers the importance of new technology (even although not directly in the context of law) is the model of the development of the state under capitalism put forward by J Hirsch in his essay 'The State Apparatus and Social Production'.¹⁹¹ Hirsch (who in his derivation stresses the class conflict inherent in the capitalist mode of production rather than the relations between commodity producers¹⁹²) sums up his position as follows:

'[F]rom the determination of the form of the bourgeois state the possibility and the general necessity of its general functions can be derived - the possibility in so far as the state as a force separated from bourgeois society is functionally in a position to guarantee the general and external conditions of reproduction which cannot be created by private capitals and to intervene with force "against the encroachments as well of the workers as of individual capitalists" (Engels, Anti-Dühring, p.382). This possibility implies at the same time the impossibility of interfering with the foundations of the capitalist reproduction process, namely: private property and the availability of free wage labour. The general necessity of state intervention results from the fact that the capitalist process of reproduction structurally presupposes social functions which cannot be fulfilled by individual capitals.' 193

Hirsch does not however, limit his analysis to a statement of the possibility and necessity of state action. There are only broad guidelines to state action. Inherent in the capitalist mode of production are contradictions which threaten to destroy it. Since the state is an intrinsically capitalist form which owes its existence to capitalism, and since it is peopled by members of the ruling class it will strive to reproduce itself at all costs. The only way in which it can do this is to see that the capitalist mode of production on which it is dependent is also reproduced.

The interrelated contradictions of capitalism are the tendency of the rate of profit to fall and the class struggle. Whilst the former can be outlined in abstract terms its occurrence depends largely on the latter and therefore on historical circumstances.¹⁹⁴ In its simplest form the tendency of the rate of profit to fall can be understood as a tendency which results from the necessity for capital to reproduce itself. Capital is reproduced as a result of the accumulation of surplus value. However, competition limits the amount of surplus value by lowering the price of goods. The result is that the capitalist has to find other ways of increasing his profit. Assuming that wages cannot be lowered, since they have reached their social minimum¹⁹⁵, the only way open to capital is the technical transformation of the labour process:

'The technical revolutionization of the process of production becomes a necessary instrument in capital's conflict with wage labour mediated through the expansion and self-assertion of individual capitals in competition.' 196

The result of the increased use of sophisticated technology is that more expensive machinery and therefore more fixed capital is required to produce the same profit. The consequence is that the rate of profit falls.¹⁹⁷ The tendency of the rate of profit to fall does not however reveal itself as simply as outlined. It is not an economic law the validity of which can be directly measured. It is merely a tendency of capitalism subject to counter-tendencies. Of these counter-tendencies the influence of new technology and the spread of technologically mass-produced goods into new and less sophisticated markets are the most important. Technology is a double edged factor in the development of capitalism because on the one hand it causes the rate of profit to fall by tying up more constant capital while on the other it effectively reduces unit production costs and therefore increases profits.

The significance of technology as a counter-tendency is further complicated by the fact that technological development does not proceed smoothly since the quality and effectiveness of new technology can vary. Crises of capitalism caused by the erratic operation of counter-tendencies require their conscious mobilization.

'The mobilization of counter-tendencies means in practice the reorganization of an historical complex of general social conditions of production and relations of exploitation in a process which can only proceed in a crisis-ridden manner.' 198

This mobilization does not take place in a vacuum. The 'general social conditions of production' refer not only to abstract factors such as the tendency of the rate of profit to fall, they also refer to the conflict between capital and labour - the class struggle. Thus for example as a result of labour being organized the minimum social wage might be increased causing a decrease in profits. The process of mobilization does not start anew at every crisis instead 'each cycle or reorganization is moulded by the ever-intensifying contradictions springing from the previous reorganization'.¹⁹⁹

From this analysis the direction which the development of the state, as mediated by law, will follow can be broadly predicted. In Hirsch's words:

'The development towards the modern interventionist state is to be understood as the development of a form peculiar to the capitalist system within which the contradiction between the growing socialization of production and private appropriation can temporarily move. Therefore, the investigation of state functions must be based on the categorical analysis of the historical course of the process of capitalist reproduction and accumulation; it must be borne in mind, however, that this is not a question of the logical deduction of abstract laws but of the conceptually informed understanding of an historical process, in which the objective tendencies determined by the law of value and the capital relation assert themselves through the mediation of concrete political movements and processes, class struggles and conflicts between individual capitals and groups of capitals on a national and on an international level.' 200

Since the development of technology and the expansion of trade are two of the means by which a declining rate of profit can be stemmed, the state, it can be predicted, will take action in these areas. If it is accepted that the state acts largely through legal forms it can therefore be predicted that the body of law relating to development and control of technology will become an area of some importance. At the same time, as a result of the increasing dominance of capitalism, the conditions for class struggle take shape and the state can be expected to take action to counteract its potentially disruptive effects. Public law will increasingly be mobilized in order to protect the capitalist system. This will tend to distort the public law - private law relationship. However the state will be limited by basic private law forms.²⁰¹

(ii) Stages in the development of forms of state and law

In their essay 'Capital, Crisis and the State'²⁰² Holloway and Picciotto, who rely on the analyses by Pashukanis, Blanke, Jürgens and Kastendiek, and Hirsch, provide a general model of the changes in the state leading towards and developing out of the capitalist mode of production. This model allows one to analyse in detail how the capitalist form of the state and its related legal forms were brought about and how they came to take on further functions whilst their basic forms were reproduced. The importance of this model lies in the fact that it combines logical analysis of legal forms with historical analysis of their detailed development. Holloway and Picciotto outline three basic periods:

(a) The generalisation of commodity production: the establishment of the preconditions of accumulation²⁰³

The first 'moment' of capitalist production arises from the separation of production and consumption. This takes place with the breakdown of feudalism and the founding of the mercantilist state - historically in 15th and 16th century Europe. At this stage the state has not reached the form most suitable to commodity production and circulation as various privileges and monopolies still exist. Nevertheless the nucleus of commodity production is established - to some extent by these monopolies themselves.

(b) The primary contradictions of accumulation and the liberal moment of the state²⁰⁴

Once the preconditions for capitalist accumulation are established, the principle of equality can be pursued with vigour. By positing an absolute distinction between the economic and political spheres an attempt is made to remove all restrictions on the circulation and production of commodities - the two elements which together constitute capitalist accumulation. However, contradictions of the kind described above, between equality in the sphere of circulation and inequality in the sphere of production, both supposedly in the economic sphere, soon create problems.

In the liberal moment of the state the law simultaneously intervenes in two different ways to solve these problems. By reforming the legal apparatus of the mercantilist period the law is brought more closely into line with the

ideal of equivalent exchange. This happens 'as the sphere of circulation becomes the sphere of realization of industrial capital rather than the sphere of primary accumulation of mercantile capital'.²⁰⁵ The law also intervenes to rectify inequalities in the sphere of production which threaten the capitalist system. Early legislation dealing with such subjects as factories and education are examples of legal intervention for this purpose.

The paradox is that at the same time as the law relating directly to the circulation of commodities is formulated in terms of general principles, bodies of officials and specific codes, such as those described by MacDonagh and Paulus, are created to deal with problems of 'social welfare' i.e. to contain the immediate contradictions inherent in capitalist accumulation.

(c) The socialisation of production and the tendency of the rate of profit to fall²⁰⁶

From the last part of the 19th century the tendency of the rate of profit to fall begins to take effect. This happens because capitalism has exhausted the easy ways of increasing surplus value e.g. by reducing wages. Various authors have suggested that either an economic crisis or a political crisis ensues. Holloway and Picciotto reject this distinction and argue that the social relations on which capital is based are continually restructured. However, the development of capitalism is uneven; crises therefore result in which the continual restructuring of capitalist social relations is inadequate and state intervention is required.

The mobilization of counter-tendencies to the falling rate of profit therefore increasingly takes place through the state. However, the state is subject to constraints, such as the legal forms which capitalism has by now developed, and which the state is bound to protect, albeit in modified form, if it is to protect its own basis. The distinction between public law and private law is one such form. It implies that there is an area in which the state cannot intervene.²⁰⁷

The state is also constrained by the fact that it does not effectively eliminate competition between capitals. Even within the state apparatus they act as 'hostile brothers',²⁰⁸ vying for the favours of the state.²⁰⁹ In more general terms, the state is further constrained by class struggle.

This does not begin afresh with each new crisis but is conditioned by the circumstances of previous crises.

The consequences of the constraints on the actions of the state are that, '[a]s capital is forced, in the struggle for accumulation, to strive to overcome the limitations of the state form, it tendentially undermines that particularisation of the state which is a precondition of its own existence'.²¹⁰ It is at this stage that one can expect the distinction between public and private law to become increasingly blurred. It is not yet clear to what extent the 'neutrality' of the state can be undermined without the destruction of the capitalist mode of production.

In the substantive part of this thesis this model of the emergence and development of the capitalist state and its related legal forms will be further explored. The periodization and the descriptions of the various periods will be compared to one facet of capitalist development. If found to be generally accurate, the model will be further elaborated.

IV. Synthesis

In the introductory section of this chapter it was noted that the relationship between agents and structure was a key focus of this thesis. Empirical studies of the emergence of law (it was found in Section II) have made an important contribution by pointing to the active intervention of agents (both as individuals and as groups) in the construction of specific bodies of law. Such studies have, however, not adequately located these activities within the structural framework within which social order is reproduced.

At the other extreme, the model of the emergence of law put forward by Pashukanis and the state derivationists explains the emergence of law in general (particularly of its form, but also, to a large extent of its content) in terms of a 'structural' factor - i.e. the emergence and reproduction of the capitalist mode of production. Critics²¹¹ of this approach have pointed out that, at least in some of the derivations, the 'logic' of the approach is stressed to such an extent that the role of active agents - other than the dominant class which, as a whole, uses law for its own purposes - is minimised.

It is an hypothesis of this thesis that the 'logical' derivation of law can give some guidance for the analysis of a specific body of law but that it needs to be 'opened' substantially - by a broader conception of structure than a direct 'functional' relationship to the mode of production and by a conception of law which investigates the sociologically relevant facets of a body of law rather than concentrating exclusively on 'form' or 'content'.

The intervention of social classes might be found to disturb the direct relationship between law and mode of production. Such classes are held to emerge under particular modes of production and act in opposition to the existing social order in an attempt to change it. Active intervention might lead to significant variations in the patterns of legal development predicted by the State Derivationists - including perhaps instances where the working class develop interests in specific forms of law which are part of the capitalist mode of production. The actual interventions of social classes therefore need to be closely studied.

The meaning of class in social theory and in history²¹² is highly controversial. A detailed treatment of it is outside the scope of this thesis. For the purpose of analysis it is accepted, broadly following the theorization of Giddens²¹³ and the social history of Perkin²¹⁴, that a class division of society is an emergent quality of industrial capitalism. The point is elaborated below in the light of historical evidence of developments in British society.²¹⁵

In the empirical study that follows class divisions are treated as only one (emergent) feature of social structure. Interest groups are not ignored but considered as active agents and, at the same time, in terms of the class structuration of society. Following Cain, interest groups are interpreted as being both intra-class (fractions of a class) and inter-class (sectors). In both cases the members of the group have in common an ideology in which an idea about law or a body of law may play a part. Such ideologies are a developed feature of the consciousness (common sense) of the class to which members of the group belong or primarily belong. Ideas, in the form of 'ideology' or 'common sense', are therefore also a structural feature of society. Finally institutions - the organs of the state, voluntary

associations etc - are seen as providing structural opportunities and constraints on the exercise of power by human actors either as individuals or in social groupings.

This open concept of 'structure' allows the insights gleaned from other sociologies of the emergence of law to be incorporated within a primary developmental model of law in industrial capitalism. Critical attention is paid to factors previously noted as causally linked to the emergence of particular laws and their relationship to the larger structural constraints. This allows comparison with other empirical studies without necessarily accepting their implicit models of society.

It is important to note that law is not thought of as existing outside these structural constraints but is conceptualized as part of them. Using different terminology various writers have drawn attention to how specific laws can at the same time have analytically separable qualities. One line of empirical work has noted that legislation can have both instrumental and symbolic dimensions. It can be of significance to the evolution of the mode of production (instrumental), be part of an ideological structure (symbolic) and, at the same time, be of social structural significance as a point of reference for fractions, sectors and even classes. Nor are these qualities given, for law as a mode of reproduction of social order is itself a process which emerges and coalesces.

Several writers, from within very different sociological traditions have noted the ideological importance of law in general. Foremost among them is Weber's analysis of the ideological role of natural law. It is paralleled by Pashukanis' analysis of the same phenomenon. Thus Pashukanis comments on 'the service rendered by the natural law doctrine in laying the foundations of the modern bourgeois legal order'.²¹⁶ In their analysis both Pashukanis and Weber note the extent to which natural law theories formed the basis of bourgeois law at the time when the bourgeoisie were a revolutionary class and how, when their revolutionary fervour cooled, it was replaced with, in Pashukanis' words, 'a unique medley of historicism and juridic positivism'.²¹⁷

Weber's analysis of rationality also notes what an important 'ideological' resource legal rationality is in the legitimatization of power. In this he directly parallels Cain's use of the related concepts of ideology, hegemony and common sense. Thus W Kaupen has remarked :

'[O]ne may find, on becoming more familiar with the new paradigm [advanced by Cain following Gramsci], that quite a number of observations in "traditional" (bourgeois?) sociology of law are consonant with this orientation. Max Weber's analysis of different ways of legitimizing power can be interpreted, for instance, in terms of hegemonic control: according to changes in social structure and in the respective "common senses" the ruling classes have to develop different types and modes of justification for their rule - the "rule of law" being one specific phenomenon in this variety of justifications.' 218

Weber's conception of legal rationality extends further, to institutional structure - for he argues that it conditions the responses of bureaucracies which constitute the state. This notion has been challenged empirically. Gabriel Kolko, in his analysis of the role of bureaucracies in the implementation of anti-trust legislation in the U S A during the late 19th and early 20th centuries,²¹⁹ points out that bureaucracies set up to enforce this law were not neutral, but were consistently biased in favour of the capitalists whom they were supposed to police. They were deliberately set up in this way by the large capitalists themselves. Kolko argues that Weber's failure to consider why bureaucracies were set up, leads him to ignore their class base and to attribute too much explanatory significance to the bureaucratic form of government.²²⁰ The point is well taken but it does not follow that the significance of the bureaucratic form can be ignored.

The notion of a legally rational bureaucracy is doubly important for, as will be seen in the chapter dealing with professionalization, bureaucracy can itself be an important constitutive element for professions dependent on it. Professions are again crucial elements in modern social structures and are actively involved in shaping the relationship between law (or a body of law) and society.

It is in understanding the relationship of active agents to 'structure' that the insights gained from the studies of the emergence of specific laws discussed above can be synthesized with broader evolutionary views on law in general. Lukes has argued that, in general,

'social life can only properly be understood as a dialectic of power and structure, a web of possibilities for agents, whose nature is both active and structured to make choices and pursue strategies within given limits, which in consequence expand and contract over time.' 221

In this thesis the concept of power is used in this active sense to indicate that agents choose to act - to exercise power in the different dimensions outlined by Lukes. At the same time the models of capitalist development (particularly that of Holloway and Picciotto) are retained as guidelines to the possible structural limits to the choice of active agents. The actual dialectic must, of course, be worked out in empirical research. Accordingly, within the scope of a longitudinal study, constant attention will be paid to the dialectic between agent and structure in the emergence of law.

In summary: the model to be explored is one which suggests that law is an integral feature of the capitalist mode of production - or, in other terms, that the legal form is central to the reproduction of social order in capitalism. At the same time it allows examination of the forces which lead to legal change in terms of a dialectic between power and structure. Finally, it remains open towards law itself, suggesting that a particular body of law might be a constitutive part of several facets of social order.

V. The area of analysis: Law controlling the introduction of new technology

The question that remains to be considered is how the proposed model can be applied and refined. As has been observed, the strength of the model lies in its combination of logical and historical analysis. Further development depends on empirical analysis which will refine the categories on which the model is based and lead to a more detailed understanding of the way that law can be expected to develop.

The ideal way to do an empirical study of this kind of theory would perhaps be to analyse the emergence of all law which came into being in the period leading up to and following from the first simple commodity circulation. Clearly this cannot be done in one study, and even if it could be done in several, it would still be of doubtful value as it would fail to distinguish between areas of the law which were more or less relevant to the central problem of the production and reproduction of human society. A finer analytic focus is needed to do justice to the full richness of the various conceptions which the sociology of law has developed and which can be integrated into the suggested framework.

The selection of an area for analysis is fraught with difficulties. As Paul Rock has pointed out:



'No sociology can totally comprehend a totality, and some areas of life must be pushed to the margins before analysis can proceed. It is nevertheless of some importance to continually question the costs of obscuring or bracketing certain facets of problems.' 222

The analysis of the form, law, has shown how dangerous the choice of sub-division can be. Thus it has been demonstrated how Renner, by accepting legal concepts as his unit of analysis, and by regarding the legal distinction between public and private law as immutable, was unable to analyse the emergence of these forms themselves. Similarly the narrow focus on a specific piece of legislation often does not ask why law should be held to be relevant to the particular problem to which the legislation is addressed.

The alternative is to select a specific segment or sphere of social life in which law appears to be active and to subject to analysis the various ways in which law intervenes in it. MacManus has made this point clearly:

'We must still, however, start outwith legal considerations in defining a research area. What has to be chosen is an area of activity crucial to the society, defined and limited for us by an examination of that society. In doing this we are attempting to overcome the potentially misleading effect of treating law as a mirror of society, looking rather for the "Real" society underneath the law's distorted reflection.' 223

In the argument presented above on the relationship between law and the state the production of commodities is seen as a basic precondition to the existence of law. All production entails the application of certain skills or techniques but when production becomes of such a kind that it proceeds beyond a subsistence economy and produces a surplus of commodities, it immediately implies an increase in the sophistication of the technology used. Technology can therefore be regarded as an 'activity crucial to the society' which has progressed beyond subsistence level. A preliminary examination of British society, to which the substantive section of this thesis will largely be confined, reveals that technological innovation was a crucial element in major economic and social changes. In the analysis below this inter-relationship will be spelled out in greater detail. If the model of legal development which has been proposed is sound, it ought to be able to accommodate an explanation of the various efforts that were (and are) made to use law to control, and thereby to stimulate or repress, this crucial element in the productive process.

Is law as significant an element in the exploitation of new technology as theorists suggest it is in other capitalist economic processes? The question remains to be answered, for, while it is common cause that technology is of enormous significance in changing modes of production, the mediating influence of legal forms in making technology exploitable has largely been ignored. Many social theorists tend to regard it as fortuitous that technological developments have consequences favourable to the dominant economic class.

Marx often came close to this position. Commentators have been hard pressed to deal with some of his more mechanistically determinist pronouncements. Thus Marx said: 'The hand-mill gives you society with the feudal lord; the steam-mill, society with the industrial capitalist.' ²²⁴

Giddens, an expositor of Marx's thought, points out that this proposition is a gross oversimplification which has led to Marx being accused of 'technological determinism'. ²²⁵ It is certainly clear from Marx's development of other concepts that the rise of the 'industrial capitalist' was influenced by other factors as well. Giddens argues that the reason for this confusion is that Marx, in his discussion of technology, uses the concept 'relations of production' loosely. Sometimes it refers to what Giddens calls 'para-technical relations' i.e. the relationship between men and machines in a factory. At other times it includes linkages between productive units such as those found in commodity circulation. Giddens stresses:

'The point is that the connection between para-technical relations and the broader economic relationships involved in any given system of production is a variable one: and the character of the second depends less upon the nature of the first than upon the ways in which relationships are formed by coercion, custom or law.' ²²⁶

Other writers also notice this weakness in Marx's thought. Thus Cain notes that Marx does not explain why the 'unintended consequences [of technological development] so fortuitously and so frequently have effects favourable to the dominant economic class'. ²²⁷ She hints that law might play a significant part in the distribution of the advantages of new technology and that these advantages might not be divided equally amongst the dominant class. ²²⁸ She does not pursue the point.

Marx is not alone in linking technological development to the evolution

of capitalism without explaining how the linkage takes place. Weber also notes that the use of technology which is constructed and organized on the basis of rational principles is a basic prerequisite of modern capitalism.²²⁹ He argues, as has been seen, that modern capitalism cannot exist without legal rationality - but he too fails to explore the link between law and technology.

Of the theorists who have been discussed only Renner deals directly with the relationship between law and technology. In his analysis of the extended functions of property Renner points out that capitalist property incorporates inventions in the form of machines. These machines are used to extend the domination of property over large numbers of workers who are bound to the routines of 'machino-facture'.²³⁰ They destroy the 'mystery' of the skilled artisan and reduce him to an unskilled worker.²³¹

Renner does not explain quite how this is done. How does the owner appropriate new technology? The answer is, of course by gaining legal control of it - but that raises another question - why should the owner use the form of law to gain control of technology? This leads to general questions about the form of law - which, as shall be seen in the case of law relating to technology, assumes fascinating parallels with the (private) law of property without actually becoming part of it. Renner does not deal with the general form of the law which gives property the extra function it acquires.

As patent law appears to be the body of law most directly connected to the legal control of new technology the substantive analysis concentrates on its emergence. At the same time the analysis remains open to the possibility that other areas of substantive law (the law of industrial design, the law of copyright, etc.) might impinge on the control of new technology. Changes in the law both at the level of function and of form are considered.

On the question of the function of patent laws a recent writer, Balz, has remarked:

'The patent laws have remained unaltered in their substance and their conceptual form, while the real process of invention and innovation has moved constantly way from the situation of the patent archetype. The evolution has affected both the societal organization of technological change and the structure of science and technology as a system of thought. The effect is a functional transformation of the patent laws that is comparable to though probably still more radical than the functional transformation of the institution of private property in the "New Industrial State"' 232

The validity of this proposition is considered but at the same time the 'patent archetype' is not accepted as the last word on the form of patent law. Instead it is analysed as an ideological construct in its own right. In this respect patent law is potentially significant. Descriptions of its essence are complex, even tortured. This is a prima facie indication that even lawyers find it difficult to slot the law dealing with new technology into the better known forms of law such as property or contract, or to locate the patent system in the public law/private law distinction.

The primary focus is on the question of how the law dealing with technology came into being and how it came to be accepted as 'commonsense' that technology ought to be controlled by law. As this happened primarily during the 'liberal moment' of the state, the bulk of the analysis is concentrated on that period. This does not mean that the three-period classification suggested by Holloway and Picciotto is abandoned. On the contrary, the substantive analysis first focuses briefly on the control of technology in the mercantilist period as it sets the background to the framework provided by the state for the control of technology in capitalism (Chapter 2).

The liberal period is then dealt with in more detail. Three chapters, 3, 5 and 6 deal with the actual development of the patent system into a structure for controlling new technology and making it exploitable by capital. Chapter 3 covers the formative years, \pm 1750 - 1800, in which a mercantilist institution was revamped to deal with the needs of early industrialism - without a clear basis for it being articulated. Chapter 5 spells out the moves towards a reformed and established patent system culminating in the legislation of 1852. Chapter 6 considers the attempts to abolish all legal control of technology and the resistance to them (1852 - 1873). Apart from the more or less chronological account of the construction of a jurisprudence of patents and of the development of the patent system, detailed analyses will be made of the incorporation of ideas about patents in broad class based 'common senses' (Chapter 4) - Also to be considered in this chapter are the more tightly knit ideologies of the professional groups which emerged around the actual operation of the patent system.

Acceptance of the most important law relating to the control of technology in Britain, the patent system, took place at the beginning of

the long depression which lasted approximately from the mid-1870's to the end of the 19th century. This roughly coincides with the start of the third period: the socialisation of production. After dealing with the events which led to the passing of major legislation (Chapter 7), the substantive analysis stops because the 'goal' of acceptance of the legal control of technology had been achieved. As this took place primarily within a national framework, the focus on Britain is justifiable. Obviously it did not take place in isolation from developments in other countries with similar systems of production. These influences will be assessed in the course of the analysis. In the final chapter (Chapter 8) mention is also made of the drastic changes recently introduced in patent law by Britain's entry into the European Economic Community. It is argued that they reflect the operation of law governing technology in a wider capitalist sphere.

CHAPTER 2 - MERCANTILISM AND THE GENESIS OF LEGAL CONTROL OF NEW TECHNOLOGY

I. Introduction

The legal control of new technology in Britain originated as part of a proclaimed policy of the state to encourage (albeit selectively) economic growth. The idea that an inventor automatically has a legal right of some kind to the control of his inventions only arose much later. Since these two issues were often confused by lawyers seeking historical justification in the common law¹ for patents of invention by which inventors exercised monopolistic control over their inventions, they have to be carefully separated in a consideration of the early relationship between law and technology.

An ideal-typical, synoptic view of the significance of technology in the feudal period can serve to set the stage for an understanding of its dynamic interaction with legal controls. In the primarily agrarian economy of the feudal middle ages the control of technology was not a distinct issue. Such technology as existed, remained in the control of workmen whose very movements, in the ideal type of this society, were controlled by the feudal overlord. There was no encouragement for individuals who might wish to introduce new methods of production which could upset the existing order of primary self-sufficiency within the manorial community. Two factors operated to disturb the theoretically perfect equilibrium of the feudal system. The first was the presence of specialized craftsmen and merchants who operated in the towns outside the framework of the rural hierarchy. The second was the gradually coalescing, centralized state which provided an alternative focus of power to that held by the feudal barons. It is perhaps an oversimplification, yet essentially true, that it was a combination of these two factors which in post-medieval Britain brought about the policy of mercantilism which in turn created the framework for the first attempts at legal control of technology.

The social corollary of these changes was the emergence of a new social grouping, the growing merchant class, or, as it became known, the bourgeoisie. As Giddens has explained: 'The bourgeoisie, as it were, develop within an enclave within the feudal system, but are not an integral part of it.'² This, of course, does not mean that society was restructured

overnight into a class based society resting on the capitalist mode of production, but it did herald the beginning of the breakdown of the hierarchical feudal social order.

The concept of a policy of mercantilism is, like that of feudalism, an ideal type. The meaning of the concept has been open to controversy ever since it was first used by Adam Smith to designate state interventionism in favour of merchants and against the producer.³ In what follows the term is not used in its narrow sense of 'the system of economic doctrine and legislative policy based on the principle that money alone is wealth'⁴ but rather 'the belief that the economic welfare of the state can only be secured by government regulation of a nationalist character'.⁵

II. Early state intervention

Government regulation clearly depends on a government powerful enough to be able to regulate. In the 14th century effective central government, rather than a loose confederation of land barons headed by a king, was emerging in Britain for the first time. Britain at that time was economically a relatively backward country.⁶ This remained true relative to the rest of Europe until at least the middle of the 16th century.⁷ In order for the centralized state to flourish there had to be progress beyond subsistence or localized commodity production, so that the necessary revenue could be provided. Accordingly the state attempted the gradual stimulation of the production and circulation of commodities in those sectors of the economy where it could act without disturbing powerful vested interests. The first clear illustration of this policy is the invitation in 1331 to John of Kempe, a weaver from Flanders, to settle in Britain.⁸ In return for introducing his skills into Britain and for training apprentices he would receive royal protection. That this was not an isolated incident is apparent from the wording of the letter which promised similar privileges to other weavers who wished to settle in Britain. It was followed by a statute extending such privileges to all textile workers and also by further grants to individuals who had other technical skills which were needed in Britain.⁹ An example is the admission of three Bohemian coal miners in 1450 on account of their 'meliozem scientiam in Mineriiis'.¹⁰

The system of grants remained piecemeal and largely ineffectual. It was not until the middle of the 16th century that state intervention in the form of royal patents of monopoly came to be a significant factor in the control of newly introduced industrial techniques.¹¹ In order to understand

this change the nature of central government in England must be considered in more detail.

III. Administrative reform

The central administration of the 14th and 15th centuries had grown out of the household of the king and was not capable of implementing the routine decisions required in order to follow any consistent government policy. In the first half of the 16th century, however, the administrative structure began to develop organs of government which were beyond the king's immediate supervision though still under his control. During the 1530's, in the reign of Henry VIII, the climax of this development was reached in what J R Elton has called 'the Tudor revolution in government'.¹² This 'revolution' led to the reorganization of the government into national departments each responsible to the Crown for its specific sphere. Of particular significance to the later development of the law governing technology was the Clerks' Act of 1536.¹³ This Act made provision for a systematic process to be followed by the clerks of the offices of the Signet and the Privy Seal in the process of attaching these seals to official documents. Such seals were required before the decisions of the Privy Council or any royal patents could be given effect. In this way the implementation of the decisions of the Privy Council came to be cast in a formal administrative mould - although the actual decisions on the granting of patents were still taken by a body directly responsible to the king. When the system of patents came to be used as a means of granting privileges for the control of new technology these seals remained a requirement and continued to be a feature of patent administration until the middle of the 19th century.¹⁴

It must not be thought that the Tudor revolution in government introduced a system which conformed to Weber's ideal type of a modern bureaucracy.¹⁵ The officials were appointed to their posts for life and were remunerated by the fees that they charged for their work. Offices were virtually the property of the incumbents and were often inheritable. The public and private affairs of the officials were not clearly separated. On these counts the 'reformed' Tudor administration fails to meet the description of a modern bureaucracy.

On the other hand the purpose of the Clerks' Act was to introduce an element of predictability, in Weberian terms, 'of extrinsically formal

rationality'¹⁶ into the administration. In as far as it succeeded it showed some of the characteristics of a modern bureaucracy.

Elton suggests that the administrative changes of the 1530's created a unique, not a hybrid, type of government - a type which he calls 'early modern'.¹⁷ This type, Elton argues, can easily be separated from a medieval (in Weberian terms, traditional or patrimonial) government and a modern (in Weberian terms, rational bureaucratic) government.¹⁸

Early modern government is of great significance since it provided the instruments with which a central government could attempt a far more ambitious policy of intervention in the economic life of the nation than would have been possible for a medieval government.

A question which arises is, did this form of bureaucracy - a type not recognized by Weber in his attempts to understand the development of formal rationality in bureaucracy and law - play a role in the emergence of legal forms? The full answer to this question will only become apparent when the continued existence of early modern bureaucracy into the period of 'rational' capitalist production is considered - for the Clerks' Act of 1536 remained in force until 1851.¹⁹ Part of the answer however, lies in the use to which the early modern bureaucracy was put in implementing a mercantilist policy towards the control of technology. As a prelude to this answer the technological and economic changes which parallel the administrative reforms must be considered.

IV. Industrial growth and technological innovation

In broad terms it can be said that, from the 16th century to the mid-17th century, Britain developed from a relatively backward country to a country which, if not industrialized, produced a substantial quantity of marketable commodities.²⁰ Economic historians have stressed that it is impossible to quantify these changes in terms of, for example, an accurate calculation of gross national product.²¹ Nevertheless, it is apparent that agricultural production, and specifically the production of wool, increased greatly. This led to a growing woollen industry so that by the early 17th century all exports of unprocessed wool were prohibited.²²

The woollen industry was not the only growth point. The period following the administrative reforms of the 1530's was also a period of

increasing technological innovation and industrial activity. The extent of this activity is controversial. R U Nef in a seminal article, speaks of the century after 1540 as a period of technological change to rival the industrial revolution of the post 1780 period.²³ His characterization of changes during the century 1540-1640 as an industrial revolution has been vigorously attacked, most notably by D C Coleman.²⁴ He argues that Nef's examples are atypical and that, whilst there were technical innovations in the industries to which Nef refers, large concentrations of capital and labour were not typical of these industries. Nevertheless Coleman concedes: 'This is not in the least to deny that the development of these industries marked a significant variation on domestic production or that they represented, taken together, an important phase in the slow growth of early industrialization.'²⁵

In his article Nef isolates three kinds of technological development which he sees as crucial to the growth of large scale industry in this period:

(i) The introduction of 'new' industries:²⁶ The period 1540-1600 saw the introduction of the first paper mills, gunpowder mills, cannon foundries, sugar refineries, large-scale saltpetreworks and brass and battery works.²⁷ The majority of these had been produced before but not on a scale which involved the setting up of capital intensive plant.

(ii) The progress of advanced technical methods in old industries:²⁸ Increased demand created pressure for new techniques particularly in the field of mining. Ironmaking became more advanced and assumed 'a new and highly capitalistic form'.²⁹ Copper smelting was developed by workers from Germany and combined in a sophisticated enterprise with copper mining. Goods manufactured from metals, such as wire, sheets and rods, were also produced by improved techniques.

(iii) The discovery and application of new technical methods:³⁰ Perhaps the most important of these was the use of coal in the smelting of ore. Also significant were the adoption of more elaborate kilns for the production of bricks during the reign of James I and the discovery, at about the same time, of new methods of glass-making.

V. State intervention

Even if one accepts that Nef overstated his case the technological changes he describes are of great significance for an understanding of the

relationship between the state and the control of technology, for, in the period following 1540, and particularly after 1560, the state intervened in almost all of them.³¹ The mechanism used for intervention was the newly reformed administration. The most common means of intervention were patents, i.e. 'letters' from the sovereign issued in terms of the procedure laid down in the Clerks' Act, which gave an individual or a group the exclusive right to do something of economic significance. The functions of letters patent in this initial period can be divided into five categories.³²

(A) Patents were used to relax the rigidity of a law controlling a particular industry by granting dispensations from it to an individual. Such patents also took the forms of a right given to an individual to grant dispensation to others from a particular act for a fee.³³

(B) Patents were granted entitling an individual to oversee an existing industry directly by issuing licences.³⁴

(C) Patents were granted allowing one or more persons to take over a whole industry and operate it for personal gain.³⁵

(D) Patents were granted to those who began a trade in a hitherto untraded commodity or who began trading with a new area. Such patents gave them a monopoly in trade in a particular commodity or with a specific area.³⁶

(E) Patents were granted for a limited period where, in Bacon's words,

'any man out of his own Wit, industry or endeavour finds out any thing beneficial for the Common-Wealth, or bring in any new Invention, which every Subject of this Kingdom may use; yet in regard of his pains and travel therein, her Majesty perhaps is pleased to grant him a Priviledge to use the same only by himself or his Deputies for a certain time'.³⁷

Patents for monopoly have in general attracted a great deal of attention from economic and legal historians because they appear to represent a systematic government policy.³⁸ In particular, exhaustive analyses have been made of all the patents of the fifth category - patents granted for the 'finding out' of any thing connected with new industry. These studies have shown that such grants were fairly rare before 1560,³⁹ but that after 1560 they were extended to include virtually every form of technical innovation mentioned by Nef.⁴⁰

Under the reformed administration the first patent relating to technology was granted to Edward Smyth in 1553.⁴¹ It gave Smyth permission to introduce into England a number of foreign workmen who were 'mete and expert' in the manufacture of glass. These workmen would train local apprentices. The patent prohibited, for a period of 20 years, the manufacture of 'Normandy glass' or any similar product which could rival Smyth's.⁴²

Later patents relating to new technology took much the same form as Smyth's patent.⁴³ They too dealt with the control of new industry,⁴⁴ were for a limited period⁴⁵ and obliged the patentee to teach his skill to others⁴⁶ and/or to work his patent on an economically significant scale.⁴⁷

It is understandable that the study of patents in an attempt to determine the relationship of the state to new technology will concentrate on those ostensibly granted to promote the introduction of new industry. It must not however, be thought that in the granting process, patents with the economic function of establishing new industries can be isolated from those with other functions, nor that an unwavering line of distinction can be drawn between the various categories. On the contrary, patents initially dealing with new technology could be renewed or repeated so as to serve different functions. Consideration of developments in the manufacture of glass illustrates this point.

Glass: There is no record of the early 1553 patent being worked.⁴⁸ In 1567 a new patent was granted to Becku and Carter to make window glass.⁴⁹ The patent contained a provision that the patentees should, as a condition of their grant, instruct English artisans. The patentees were incapable of doing this as they were not craftsmen themselves but merchants dependent on French workmen who soon left their employ.⁵⁰ The patent was not revoked but during its term numerous French workmen who were experts in the manufacture of glass emigrated to England. They began work and came to an informal arrangement with the patentees. By 1589, the year in which the patent expired, there were 15 glass manufacturers in England.⁵¹ This would appear to be a clear case where mercantilist intervention had failed to introduce a new industry but where the desired result had been achieved by informal means.

Mercantilist intervention in glass manufacture, however, had not yet run its course. In 1574 a patent was granted entitling an Italian craftsman, Versalini (Versalyn) to make drinking glasses for 21 years.⁵² It was coupled with a prohibition on the importation of foreign glass. The patent entitled Versalini to sell glass himself. In 1592 the patent was surrendered in favour of Sir Jerome Bowes for a further period - according to Price 'in consideration of Sir Jerome Bowes' personal services to the crown'.⁵³ The patent was renewed and when it expired in 1609 - i.e. some five years after the landmark decision of the courts on the nature of patents (Darcy v Allin discussed below⁵⁴) - a further patent for a type of glass not included in Bowes' patent was granted to Edward Salter.⁵⁵

By this time the techniques of glassmaking were well known, yet, in 1611, another patent was issued to Sir Edward Zouch. This granted him an exclusive privilege for the use of (sea) coal in the manufacture of glass.⁵⁶ In 1613 the Privy Council ruled that Zouch's monopoly was to take precedence over those of Bowes and Salter but that they were to be compensated for their lost privilege.⁵⁷

Zouch's patent was strengthened by a partnership with 'two powerful courtiers, the Early of Montgomery and Sir Robert Mansell'.⁵⁸ In 1615 a new patent for the use of coal in the manufacture of glass was taken out to reflect this partnership. Under the leadership of Mansell a prohibition on the use of wood (ostensibly to protect forests) was obtained and the use of coal was strongly enforced. The result was that a virtual monopoly controlling the whole glass industry was established.⁵⁹ This patent by now had nothing to do with new industry or invention but was specifically excluded from the operation of the Statute of Monopolies which in 1623 sought to curb monopolies not related to new industries.⁶⁰ Mansell's monopoly existed unhindered until 1642 when it was revoked by Parliament.⁶¹ The glass industry based on Mansell's patent continued until after his death in 1653.⁶²

In the glass industry it can therefore be seen that intervention by the state was initially intended to encourage new industry (function (v) above), but resulted in monopolistic control of the industry (functions (ii) and (iii)).

The changing functions of patents can also be seen in other industries. Thus, to mention briefly a further example, in the mining industry one finds

that during the Elizabethan period patents were granted to foreign workmen to persuade them to bring their skills into Britain.⁶³ The two most important patents in this sphere, those granted to Hoechstetter⁶⁴ and to Humfrey and Schütz,⁶⁵ which between them covered virtually the whole of Britain, were soon converted into two chartered companies. These companies did very little mining themselves. Instead they functioned as organizations which licensed the mining activities of others. In this way they provided an opportunity for courtiers (who were directly involved in the companies) and for the State to take a percentage of their profits, in the form of royalties, without becoming directly involved in mining.⁶⁶ Economists have speculated that this form of industrial organization was harmful to the mining industry as a whole.⁶⁷

From these examples⁶⁸ it would appear that state intervention by means of patents did not show a consistent policy towards new industry. Indeed some modern commentators have suggested that in general the policy of the monarchy did not favour economic growth. Thus Christopher Hill has written:

'The myth that Tudor governments supported a "planned economy", or had any wish to promote social or economic welfare, has long been exploded. Elizabethan economic policy, if policy is not too strong a word, should be attributed less to "depression economics" or "war finance" than to fear of social disorder, especially from the lower classes. Governments... were open to bribery from pressure groups. But there was no considered policy of protecting English industry or furthering English trade.'⁶⁹

The dismissal of all state intervention as random government responses to class pressures is, however, too extreme, for in the period 1560-1640, an era of technological innovation and economic progress, patents for new industries were issued in a significant number of spheres of economic importance. Furthermore, even if the courtiers and those in government directly involved in patent policy were really as corrupt as has been suggested, this period also led to the formulation of consistent justifications for the intervention by the state in the introduction of new industry and for its non-intervention in other spheres, as will be shown. In the creation of this hegemony parliament and the courts played key roles.

Areas of agreement emerged in the course of an overtly political battle between parliament and the king over the exercise of state power. Both parties were interested in the mercantilist development of the economy without

wishing to disrupt the existing social structure. Their struggle was concerned with how the mercantilist state should intervene and within what framework the intervention should take place. These disputes were only to be resolved by the termination of personal rule in the 1640's. These disputes must be outlined briefly as they indicate the disagreement about the extent of state intervention. At the same time it should be borne in mind that a general mercantilist approach towards state intervention provided grounds for a 'common-sense' agreement in the specific area of control of new technology which was far more fundamental than the acrimonious struggle might suggest.

VI. Parliamentary and legal intervention

A. Parliament. Patents for monopoly became a contentious issue because of the constitutional question about the control of state finances, for although the administration had been remoulded in the 1530's so that the clerks were paid by means of the fees which they received, the state, of course, still needed some source of income. This could be acquired in various ways. Parliament could be asked to vote taxes or parliament could in some instances be bypassed and income acquired by direct intervention in the economy. One form of direct intervention was the granting of patents for monopoly and the acceptance of an 'under the table' payment for so doing. Alternatively royalties on the patent could be made directly and openly payable to the crown. In the short term it would make no difference to the state finances if a patent were granted for the introduction of a new industry or for any of the other functions which patents could serve.

To parliament it made a great difference: patents which gave control of existing industries to individuals would disturb vested interests; patents which would allow individuals to enforce laws would add to the burden of taxation; and to a lesser extent the creation of new industries could disturb the existing social order. Moreover parliamentarians who were not royal favourites would be excluded from the benefits of the patent system. Parliament therefore began to agitate against the patent policy of the crown. In 1571 the matter was raised during a debate on the subsidy (budget). A member of the House of Commons pointed out that 'the people were galled by two means... namely by licences, and the abuse of promoters; for which, if remedy were provided, then would the Subsidy be paid willingly; which he proved, for that by licences a few only were enriched, and the

multitude impoverished'.⁷⁰ The member was rebuked by the Privy Council and a stern message was sent by the Queen warning the House not to meddle with the powers of the Crown.⁷¹

The discontent about monopolies seems to have had some effect, although perhaps not the effect desired by parliament. By the 1590's patents had become harder to obtain. There had been a reduction in the number of patents issued for the control of new technology. Foreigners were particularly hard hit by the change in policy.⁷²

The change in policy did not mean that the use and abuse of the patent system by the Crown had disappeared. In 1597 the matter was again raised unsuccessfully in parliament. The Queen's reply was significant:

'[T]ouching the monopolies her majesty hoped her dutiful and loving subjects would not take away her prerogative, which is the chiefest flower in her garden ... but that they will rather leave that to her disposition ... [for she] promiseth to continue, that they shall all be examined, to abide the trial and true touchstone of the law.' ⁷³

The point was thus made that the law, rather than the passing needs of government policy, contained some standard for testing the validity of patents.

In 1601 parliamentary agitation reached a climax and a Bill was introduced entitled: 'An Act for the explanation of the common law in certain cases of Letters Patents'.⁷⁴ Once again the role of law was underlined. The debate that followed was characterized by a division between Members of Parliament who were also Privy Councillors (and therefore close to the Crown) and the rest. The former who included Francis Bacon⁷⁵ and Robert Cecil⁷⁶ stressed the constitutional position; that it was beyond the powers of parliament to limit or even to discuss the royal prerogative to issue patents. The opposing members concentrated on the practical hardships brought about by patents for monopoly and on specific monopolies such as the monopoly for the sale of salt.⁷⁷ A list of patents granted since the last parliament was produced.⁷⁸ The debate proceeded for four days. At the end of the debate the Queen informed the Speaker that she wished to issue a proclamation on the question of monopolies.⁷⁹ She did so three days later.⁸⁰ In this proclamation she listed several grants which were

to be withdrawn completely.⁸¹ She followed this with an address to the Commons in which she made a general claim to a consistent economic policy:

'Since I was queen, yet never did I put my pen to any grant, but that upon pretext and semblance made unto me, that it was both good and beneficial to the subjects in general, though a private profit to some of my ancient servants, who had deserved well. ... That my grants should be grievances to my people, and oppressions, to be privileged under colour of our patents, our Kingly dignity shall not suffer it.' 82

The reign of Queen Elizabeth ended in 1602 just as the economic policy based on her prerogative began to be considered by the courts.

B. The courts. In the period before 1599 the role of the courts in shaping the patent system was limited. As Fox has explained:

'[M]atters involving letters patent and grants of monopolies and other privileges were rarely, if ever, heard in the common law courts.... Grants of this type were, generally speaking, based on an exercise of the royal prerogative, and it was not thought fitting or consonant with the royal dignity that questions concerning their propriety should be discussed and considered in the ordinary courts of common law.' 83

It is, of course, well known that not all courts were of equal significance in the shaping of English law.⁸⁴ In general conciliar courts tended to be mere extensions of the central administration while the courts of common law combined a more reasoned, 'ideological', system of thought with their overtly repressive functions.⁸⁵ It meant that the common law courts and the common lawyers in parliament developed an ideological system as part of their conception of law. In it the limitation of the powers of the Crown was presented as part of a generally accepted system. When parliamentary pressure for the reform of the patent system became severe the Queen was compelled to refer the question to the common law courts. This gave them an opportunity to develop the law in such a way that the legal system laid down the standards for the acceptance of patents.

The central event in this regard was the famous Case of Monopolies, Darcy v Allin⁸⁶ which was only decided after the Queen's death in 1602. There was an important prelude to this case. In 1599 in the case of Davenant v Hurd⁸⁷, the so-called Merchant Tailors' case, the question of monopolies was raised in the common law courts for the first time. The facts of the case indicate how far the medieval system of guilds had decayed by

this time. The Merchant Tailors' Company, a typical guild type organization, had passed a by-law forcing its members to have at least half their cloth finished by other members of the guild. The very existence of such a by-law is an indication that the guild had already lost its grip on the trade.⁸⁸ The strength of the guild was further undermined by Davenant who ignored the by-law and, when reprimanded, challenged its validity. In the ensuing court case Lord Coke, Davenant's counsel, argued that the by-law was void because it created a monopoly which was not in the public interest.⁸⁹ The implication was that the common law had in principle always been opposed to monopolies. However, as Letwin has pointed out, Coke could find no authority for this statement.⁹⁰ The principle that a monopoly which did not serve the public good was void was accepted by Moore, counsel for Hurdis.⁹¹ (It is perhaps not without significance that, as a Member of Parliament, Moore had expressed his opposition to monopolies.⁹²) Moore based his client's defence on an argument that the by-law did not create a monopoly. In its judgement the court held that the by-law established a monopoly and therefore was void.⁹³

The outcome of the case reflects a move away from the medieval guild system which had provided some of the impetus for mercantilist regulation. Guilds were being isolated from other justifiable monopolies. For the first time the courts had taken a clear stand on the question of monopolies. Criteria still had to be established for deciding which monopolies were admissible 'for the public good'. In Darcy v Allin⁹⁴ an opportunity to do this arose.

The dispute in Darcy v Allin involved an established industry, the manufacture and importation of playing cards for which Darcy had been granted a patent of monopoly.⁹⁵ In 1601 his monopoly was ignored by Allin. Darcy sued him for infringement and litigation ensued. In his address to the court Fuller, counsel for the defendant, contended that monopolies in general were invalid. In a famous passage he argued, by way of example, that an exception should be made for new industry:

'Now therefore I will shew you how the Judges have heretofore allowed of monopoly patents, which is, that where any man by his own charge and industry, or by his own wit or invention doth bring any new trade into the realm, or any engine tending to the furtherance of a trade that never was used before: and that for the good of the realm: that in such cases the King may grant to him a monopoly patent for some reasonable time, until the subjects may learn the same, in consideration of the good that he doth bring by his invention to the commonwealth: otherwise not.' ⁹⁶

In the judgment that followed in 1603 the patent was overturned on the grounds of it being a monopoly contrary to the public good but no direct reference was made to the exception for new industry.⁹⁷ Nevertheless the decision is rightly regarded as of crucial significance in the development of patent law for, owing to the vagaries of early law reporting, counsel's argument for the defence was reported in full and came to be regarded as the finding of the court while the final judgment was virtually ignored.⁹⁸

In the years that followed 1603 - until the 1640's - the struggle between the Crown and its protégés on the one hand, and parliament and the common-law courts on the other, continued. However, the law regarding patents for new industries had largely been cast into the form it was to maintain until the much more extensive industrial revolution of the latter half of the 18th century. To complete the picture the further struggles surrounding the control of monopoly patents and the details of mercantilist law on patents need consideration.

C. Beyond the case of monopolies - Parliament and the common law courts in tandem:

James I who succeeded Elizabeth in 1603 was caught up in a struggle on the question of monopolies in the same way as his predecessor. His needs and those of his courtiers demanded that patents be freely granted. Parliament, in contrast, demanded their regulation. A pattern of disputes soon emerged with the king promising ineffectively that patent grants would be curtailed, only to have his protestations met by further petitions of grievance from parliament. Thus, at the start of his reign in 1603,⁹⁹ in 1606¹⁰⁰ and again in 1610, in the last instance in his celebrated Book of Bounty,¹⁰¹ the King announced his intention to limit existing monopolies and not to grant new ones. Parliament brought petitions of grievance in 1606,¹⁰² and 1610¹⁰³ and spoke bitterly against monopolies in 1614.¹⁰⁴ In 1614 too, the common law courts had an opportunity to deal with the limits of the prerogative to grant patents in the Clothworkers of Ipswich Case.¹⁰⁵ The subject of the litigation was again a question relating to the changing guild system - it turned on the control of workers in a company of tailors. The court held that a royal patent granting a monopoly to such a company was illegal but it took the opportunity to restate its policy on patents for new industry in the following way:

'But if a man hath brought in a new invention and a new trade within the kingdom, in peril of his life, and consumption of his estate or stock, etc. or if a man hath made a new discovery of any thing, in such cases the King of his grace and favour, in recompense of his costs and travail, may grant by charter unto him, that he only shall use such a trade or trafique for a certain time, because at first the people of the kingdom are ignorant, and have not the knowledge or skill to use it: but when the patent is expired, the King cannot make a new grant thereof: for when the trade is become common, and others have been bound apprentices in the same trade, there is no reason that such should be forbidden to use it.' 106

In Parliament agitation against monopolies in general continued to be a major political issue. It reached a climax in 1621 with the investigation of the patents of two royal favourites, Sir Giles Mompesson and Sir Francis Mitchell, who had been granted patents for the manufacture of gold and silver lace. These patents were cancelled and the patentees punished for fraudulently obtaining them.¹⁰⁷ A Bill designed to control the granting of patents was introduced in that year but it failed to pass the House of Lords.¹⁰⁸

Finally, in 1624, largely on the instigation of Coke, parliament enacted the so-called Statute of Monopolies¹⁰⁹ which gave expression to its views on monopolies of all kinds in statute law. In the first section of this Act direct reference was made to James I's Book of Bounty of 1610 which, it was claimed, formed the basis of the Act since it too called for the abolition of all monopolies.¹¹⁰ Section 2 made provision for the validity of all monopolies and all such commissions, grants, licenses, charters, letters patents, proclamations, inhibitions, restraints, warrants of assistance to be determined by the common law. Section 6 created an exception from the general prohibition for new industry.

'Provided also, that any declaration before mentioned shall not extend to any letters patent and grants of privilege for the term of fourteen years or under, hereafter to be made, of the sole working or making of any manner of new manufactures within this realm to the true and first inventor and inventors of such manufactures, which others at the time of making such letters patents and grants shall not use, so as also they be not contrary to the law nor mischievous to the state by raising prices of commodities at home, or hurt of trade, or generally inconvenient: the said fourteen years to be accounted from the date of the first letters patents or grants of such privilege hereafter to be made, but that the same shall be of such force as they should be if this act had never been made and of none other.'

Even the passing of this Act did not bring an end to the disputes about monopolies between the Crown and parliament. In its later clauses (ss 9-14)

it made provision for numerous specific exceptions to its general prohibitions. In particular chartered companies were able to avoid the limitations which the Statute had placed on individuals.¹¹¹ James I's successor, Charles I, used these loopholes and persisted in the policy of granting patents. In Christopher Hill's words: 'The ambivalence of Tudor economic policy turned into incompetent predatoriness under Charles I; and the merchant class polarized between the small group of government-privileged monopolists and the mass of rank-and-file traders.'¹¹²

Parliament continued to respond by protesting vigorously.¹¹³ The common law courts were not called upon to decide on the validity of patent monopolies again and the system appears to have been enforced by the (conciliar) exchequer courts and by the court of the Star Chamber in particular. In 1641 personal rule was terminated and the Star Chamber abolished,¹¹⁴ thus effectively bringing the enforcement of patents by the executive to an end.¹¹⁵ In the same year the Scottish parliament passed a Statute which, in words similar to the English Statute of Monopolies of 1624, limited to new industries the royal prerogative to grant monopolies.¹¹⁶ The effect was to bring the law on patents in Scotland into line with that in England. The procedure for granting them, however, remained separate.¹¹⁷

VII. Legal content

The overtly political disputes which surrounded the granting of monopolies must not allow one to lose sight of the fact that during this period the policy toward patents of monopoly as applied by both the 'government privileged monopolists' and in the common law remained within a mercantilist framework of calculated state interventionism. The consistently mercantilist nature of this approach becomes apparent on analysis of the legal principles which, in the 17th century, underpinned s 6 of the Statute of Monopolies. Such a technique is particularly valuable in this instance as Coke, who was the author and instigator of the Statute, held that it was merely declaratory of the common law of the period.¹¹⁸

A. Legal status

The mercantilist nature of the state intervention is most apparent in the status ascribed to patents; for even if granted for the introduction of new technology they remained privileges not rights. Their granting

remained subject to it being established in each case that their operation would be to the public good. The idea that patents were in theory and in practice grants to be refused on grounds of public policy, was shared by administrators and the courts. The administrators' attitude is reflected in the late Elizabethan refusal of patents for several new machines including Lee's stocking frame.¹¹⁹ The argument of public policy was also advanced in Darcy v Allin where it was suggested by counsel that the monopoly was justified since it limited card playing - card playing, it was argued, was bad for public morals.¹²⁰ In this case the argument was rejected on the facts, but the principle remained. The mercantilist conception of the role of public policy in the granting of patents is perhaps best demonstrated by an example which was used by Coke to illustrate the meaning of the words 'generally inconvenient' in s 6: He describes, with apparent approval, how a patent for a mill designed to shape cloth for hat and cap making was refused on the grounds that it would put the eighty men whose labour it saved out of work. It was therefore ordered that this process be done by hand.¹²¹

B. Subject matter

Other, more specific words and phrases in the Statute of Monopolies can also be understood in terms of the policy of mercantilism. The focus was on the introduction of new industries as viable entities rather than as in the modern patent system on disclosure through patents of new knowledge about units of technology. The term 'new manufactures' in s 6 was therefore used to include whole new industries. Such industries were, in modern patent law terms, the 'subject matter' of patent grants.

There are numerous indications that the introduction of new industries had to be practically effected. One such indication is the limitation in s 6 of the Statute of Monopolies of a grant to a maximum 'term of fourteen years' - the period, Coke suggested, required to train two groups of apprentices.¹²²

More direct evidence is to be found in Hulme's analysis of the patents of the Elizabethan era, which shows that those patents which related to new industry usually had a clause which made the grant subject to the introduction of the new industry within a fixed period.¹²³ Not all grants had a clause making working of the patent compulsory but those that did not were mainly those that had functions other than the introduction of new industry.

C. Patents of addition

The focus on whole new industries is further demonstrated by the fact that the subject matter was held to exclude improvements to existing processes - what are now known as patents of addition. There were two examples of patents refused because they were only requested for additions. In the first, Matthey's patent, a patent for an improvement in the hafts of knives was opposed by the London Company of Cutlers and refused on the grounds that 'such a light difference or invention should be no cause to restrain them'.¹²⁴ The same rule was stated by Coke with reference to Bircot's Case: [S]uch a privilege must be substantially and essentially newly invented but if the substance was in esse before, and a new addition thereunto, though that addition make the former more profitable, yet it is not a new manufacture in law.¹²⁵

D. Specification

Another indication of the general focus on the practical introduction of new manufactures rather than on the abstract knowledge of new technology can be found in the fact that patentees were not required to specify how their new 'inventions' would work. There is a limited number of exceptions¹²⁶ to this general rule. Sturtevant's patent of 1611 is a famous example.¹²⁷ In terms of his original patent grant Sturtevant was required to supplement his brief initial outline by a more detailed description. He did so in his famous Treatise of Metallica.¹²⁸ However, research has indicated that this description was not a specification of his invention in the modern sense but rather a general advertisement of his skills.¹²⁹ Detailed specifications did not become standard practice until the 18th century.¹³⁰ In the mercantilist period the focus remained on the actual introduction of industry.

E. Inventor

The stress on the introduction of new industries is also apparent from the meaning of the words 'true and first inventor' in s 6. 'Inventor' did not have its modern meaning of the creator of something that was previously unknown but included a discoverer and an importer.¹³¹ In various grants it includes the 'bringer in' of technology on which new industries could be based. This is particularly true of early Elizabethan patents which were very often granted to foreigners.¹³²

F. Novelty

Coupled to this early meaning of inventor was a very limited test of the novelty of that which was to be patented. It merely had not to be in use in Britain: In the words of the statute 'such manufactures, which others at the time of making such letters patents and grants shall not use'.¹³³ This meant that prior publication of the information on which the new manufacture would be based was entirely irrelevant. A patent could only be invalidated on grounds of lack of novelty by prior use - and even that use would have to be within living memory.¹³⁴

VIII. Conclusion

In what has been called the mercantilist period several important innovations were made in the sphere of new technology:

- (i) Production based on new, improved technology expanded to such an extent that commodity production took place on a large scale.
- (ii) An administrative apparatus was created which enabled the state to intervene (for good or ill - effectively or ineffectively) in this process.
- (iii) Once new technology became economically significant (potentially valuable) a struggle for its control developed between the administrative sector of the mercantilist state (the king, the court favourites and officials) and the legal sector (the legislature and the common law courts). The legal sector, as defined, eventually gained the right to lay down policy for intervention by the state.
- (iv) The rules which the legal sector developed to govern this intervention remained within the broad mercantilist framework which it shared with the administration and executive. Their common-sense understandings were not challenged by constitutional struggles.
- (v) Authorization from the state to control a unit of new technology remained a privilege to be granted or refused by the state. Technology had therefore not yet, even in theory, become a 'commodity' capable of being formed and exchanged in the same way as the goods it was instrumental in producing. Technology had become the subject of legal control. However, this 'subject' had not yet been conceived of as a legal right - it had not yet been cast into an 'unchanging legal form' of the kind which Renner perceived as the essence of all law.¹³⁵

From these specific conclusions it follows that, as far as technology

in the mercantilist period is concerned, one can accept the contention of Holloway and Picciotto that

'the initial moment of the formation of the capitalist state is dominated by the spread of commodity relations. However, until commodity production becomes fully established (when labour power becomes a commodity and primary accumulation of capital achieved), social relations and state forms are by no means dominated by equal exchange, but rather by its opposite: compulsion. Thus the mercantile state is structured around trade privileges, monopolies and regulations of commerce.' 136

It remains to be seen whether, in a subsequent period, the control of new technology could be restructured, either in theory or in practice, to reflect 'equal exchange' in this economically crucial sphere. It can also not be assumed that the debate would always be contained within such a narrow framework as the mercantilist consensus.

The potential for such restructuring was increased by the legal history of patents subsequent to the enactment of the Statute of Monopolies. As Hulme has summarised it:

'For a period of over a century the reported cases are destitute of any decision of importance in this branch of jurisprudence. [Later decisions]... attest a tendency to rely upon a verbal criticism of the Statute of Monopolies rather than upon the earlier practice, of which that statute is professedly an exponent. At the end of the eighteenth century, therefore, the Common Law Judges were left to pick up the threads of the principles of law without the aid of recent and reliable precedents.' 137

CHAPTER 3 - THE PERIOD OF TRANSITION

I. Introduction

From the middle of the 18th century onwards - i.e. after the long period of relative dormancy in the sphere of the law relating to the control of technological innovation - the courts began to reinterpret the law of patents. Before the end of the century they had made substantial changes to the legal form and content of the law. These changes (which will be detailed in this chapter) were effected without legislative intervention, without altering the bureaucratic structure by which patents were granted and even without the widespread public controversy which was to characterise the later history of the patent system. In order to understand these changes it is necessary to set them in the context of the reproduction of the changing social order of which they formed part. This can best be done by making generalizations about contemporaneous technological and economic developments and social changes. Inevitably there will be over-simplifications in this account.

As is the case with the industrial developments of the 15th and 16th centuries there is a great difference of opinion among economic historians about the extent of development from the mid-18th century onwards. Thus A E Musson notes in a recent work: 'The older view of the Industrial Revolution - that it was a sudden cataclysmic transformation, starting around 1760 - clearly is no longer tenable.'¹ Nevertheless, neither actual changes nor their significance should be underestimated. D S Landes in his book, The Unbound Prometheus, which can perhaps be regarded as the definitive study of technological development in Western Europe from the mid-18th century onwards, describes the changes as follows:

'In the eighteenth century, a series of inventions transformed the manufacture of cotton in England and gave rise to a new mode of production - the factory system. During these years, other branches of industry effected comparable advances, and all these together, mutually reinforcing one another, made possible further gains on an ever-widening front. ... These improvements constitute the Industrial Revolution.'²

These technological innovations were paralleled by increased economic activity in the second half of the 18th century. Although unspectacular by modern standards it was in marked contrast with levels of production of the period which preceded it.³

The social background to these changes has also been the subject of much enquiry - particularly by scholars seeking the causes of the Industrial Revolution.⁴ In this regard too a few generalizations must suffice: It seems that British society of this period was relatively 'open' if compared to other European societies: The social historian, H Perkin, has described the society which 'spontaneously generated the Industrial Revolution' as 'an open aristocracy based on property and patronage'.⁵ By this he meant that although there were enormous disparities of wealth and social status they were not reflected in a few, monolithic social classes but rather in a large number of finely graded status rankings within which there was considerable mobility. (This use of the concept, class, is controversial; for it has often been argued that classes exist in all societies.⁶ In this thesis class is not used in the loose sense of 'ruling class' but refers to social formations, the emergence of which is mediated by industrial capitalism.⁷) In the 18th century the social classes which were to characterize 19th century British society had not yet emerged.

Significant changes at the level of hegemonic common sense are observable if the generally dominant ideas of the mid-18th century are compared to those current when the Statute of Monopolies was passed in 1624. Most significant was the change in attitude towards state intervention designed to stimulate and control the development of the economy. In the 16th century and early part of the 17th century the desirability, in principle, of such intervention was accepted unquestioningly. By the 18th century direct state intervention in the internal economy⁸ - such as the granting of monopolies - had long declined. Although administrative apparatuses remained more or less intact, the weakened power of the monarchy (central government) did not allow for overall control. As Perkin has expressed it:

'Laissez-faire a hundred years and more before the publication of The Wealth of Nations [in 1776] was the direct consequence of the breakdown at the Civil War of the "Privy Council system" of central control.' 9

This change in the actual role of the state was reflected in a large (and growing) measure of support - at different levels of the still largely 'pre-class' social order - for ideas of development and innovation outside the framework of state intervention and unfettered by it.

II. The ideal of unfettered technological innovation

It should not be thought that the ideal of unfettered economic and technological development was instantaneously or universally accepted in the latter half of the 18th century. The ideal emerged gradually and the measure of popularity which it did achieve was dependent on an intellectual climate in which 'progress' was held to be desirable and, more specifically, on a growing institutional structure which propagated the ideal in the course of stimulating technological innovation.¹⁰

A major factor in the creation of the ideal was the intervention of the philosophers of the enlightenment who, even if sometimes doubtful as to human progress in an absolute sense, were quite prepared to prescribe radical means of introducing 'temporary' progress. In their writings they defined progress as development of new techniques which, it was assumed, would, of their own accord, lead to the satisfactory solution of problems. From this it was only a short step to the definition of the problems in terms of the technological developments necessary for their solution. Where previously technical innovations had been a means to progress they became an end - progress itself. The question of means became how technical solutions and innovations could best be introduced. Thus Hume assumed that the rise of the arts and sciences was conducive to progress and laid down as his first condition for this to happen: '[t]hat it is impossible for the Arts and Sciences to arise, at first, among any people, unless they enjoy the blessing of a free government'.¹¹ The idea of the 'free government' was developed in a general way by other philosophers; particularly by Adam Smith who, in his influential work, An Inquiry into the Nature and Causes of the Wealth of Nations¹², equated the abolition of monopolies with such limitation of state interference as was required to set up a society in which progress could be made.

The philosophical desire for innovative technological progress was supported by the major developments throughout Europe in what would today be known as 'pure' science. Thus in England the Royal Society, founded in 1648,¹³ had provided a foundation of knowledge which could be practically applied. Similar institutions had been set up in various European countries.¹⁴

The question of the relationship between science and the 'practical' technology of industrial development has been hotly debated by historians. One school headed by Musson and Robinson, has pointed to the scientific

background of several inventors - most notably James Watt who was educated in Scotland where he was in contact with eminent scientists like Professors Joseph Black and John Robison. Their critics, on the other hand, have pointed out that in several fields - notably smelting, brewing and certain chemical industries - scientific explanations were only discovered years after new processes had been introduced.¹⁶ Whether scientific discoveries led to specific technological innovations is less significant than the desire for unfettered enquiry engendered by the natural sciences and the methodological framework of empirical experimentation which they provided. Even if it cannot be shown that particular inventors were inspired by specific scientific information, it is true that many, if not most, 'practical' inventors came into contact with 'pure' science, for inventors were involved in 'learned' societies which included scientists in their membership.

The most influential of these societies was the Society for the Encouragement of Arts and Manufacturers and Commerce which was founded in 1754 with the aim (as its name indicates) of encouraging innovation in several fields.¹⁷ The original membership of the Society of Arts (as it came to be called) which included two peers, a teacher, a doctor and a drawing master, was, in Perkin's phrase, 'a microcosm of English society'.¹⁸ Rather than compete with the Royal Society which was, by this time, almost exclusively occupied with theoretical scientific problems, the Society of Arts attempted to encourage inventions and industrial design by giving rewards for solutions to specific practical problems. The link between availability of technological knowledge and progress was stressed at every opportunity. Thus, for example, W Shipley, the founder of the Society, remarked that the publication of information would lead to 'the Employing of the Poor, to the Increase of Trade and to the Riches and Honour of this Kingdom, by promoting Industry and Emulation'.¹⁹

Great stress was laid on useful contributions which would provide the maximum scope for innovative progress in industry. Thus even in the fine arts section prizes were predominantly awarded to 'art' which could be used to decorate the products of industry. This bias is most aptly illustrated by the Edinburgh Society for the Encouraging of Arts, Sciences, Manufactures, and Agriculture in Scotland (established in 1753 - a body similar to the Society of Arts) which decided at one of its first meetings:

'With regard to the application of the fund [for awards] the Society resolved that the rewards of merit in the finer arts should be honourary; in the useful [arts] generally lucrative.' 20

Similar societies came into being in various provincial cities in the second half of the 18th century. They were linked not by any formal organization but by members belonging to more than one society and by acquiring other societies' publications. Thus, to take a single example, the relatively obscure Derby Philosophical Society included amongst its members Erasmus Darwin, the eminent scientist, and amongst its books the publications of the Royal Societies of London and Edinburgh, the Society of Arts, the Royal Irish Academy and the larger provincial societies like Manchester and Bath as well as some European publications.²¹

Almost thirty such societies were founded in Britain during this period, in most cases by a similar combination of landowners, merchants and tradesmen. Some of them, like the remarkable Lunar Society in Birmingham, consisted of a small group of eminent men who by their own brilliance could attract distinguished speakers, while other, smaller societies were dependent on itinerant paid lecturers.²² While most of them had some cultural pretensions and occasionally debated questions of morality, they 'allowed themselves to be diverted therefrom by the universal interest in technical progress'.²³ This was particularly true of the societies in industrial towns like Manchester where 'the great majority of the members were either engaged or interested in the extension of Science and Art to manufacturing purposes'.²⁴

The new frame of reference from which problems should be approached and the broad social spectrum to which it was addressed, are accurately captured in the first edition of the Memoirs of the Manchester Literary and Philosophical Society, where a plan to make information more openly and readily available (by the founding of a library and a teaching institution) is prefaced in the following way:

'That our manufactures at present depend very much upon machines: that the cotton manufacturer in particular is, under providence, entirely dependent upon them: and that their utmost improvement to the very highest point to which it is possible for them to arrive, is, in the present circumstances of trade very desirable, for the sake of every interest, and of every order of men, dependent upon our manufactures, I will not here attempt to prove. They are positions denied by none but the most vulgar where alone such weakness is pardonable. Whatever therefore may tend to encourage and assist those arts by which mechanism may be improved and our manufactures extended is a matter of common utility and importance. The Clergyman, the Physician, the Gentleman are, I had almost said, equally interested with the Tradesman and the merchant.' 25

As a social phenomenon the emergence of the various learned societies interested in new technology might be regarded (in the terms put forward by Cain and discussed in Chapter I above) as the constitution of 'ideological sector'.²⁶ The membership of the societies which made up the sector consisted of people from various social ranks. Its members shared the dominant 'common-sense' view which deprecated state intervention in the economic sphere while still accepting unquestioningly the primary duty of the state to protect property. At the same time they had a specific ideological commitment to technological innovation which they wished to make part of the common sense of society as a whole. As a positive force consciously shaping common sense this sector could be expected to play a significant part in determining the relationship between the state and new technology.

Within the sector two ideas dominated in the consideration of how inventors should be rewarded. The first was that knowledge should be made public. It was for this reason that the Society of Arts made known its disapproval of patents, for it regarded patents as inhibiting the spread of technological ideas. Its Rules and Orders of 1765 laid down :

'No person shall be admitted a candidate for any premium offered by the Society who has obtained a patent for an exclusive right of making or performing anything for which such a premium is offered.' 27

The second idea was that inventors had a right to material reward for their contributions to technological knowledge. For this purpose various learned societies offered rewards and prizes. However, these rewards were not the only inducements available to inventors, for there existed a parallel system of direct rewards by the state: i.e. grants made by parliament in response to petitions from inventors. Initially these rewards had been a form of direct (mercantilist) state intervention designed to encourage, on an ad hoc basis, industry in a particular field. Often they did not require complete publicity for the invention introduced. This is not surprising because parliament had occasionally made such awards long before the ideal of unfettered technological innovation had gained widespread acceptance. In 1732, for example, Sir Thomas Lombe was awarded £14,000 for having introduced a silk industry based on Italian machines, on condition, not that he made the design of his machines generally available, but that copies of them were deposited in the Tower of London.²⁸

In the latter half of the 18th century parliamentary rewards, like private rewards, were granted on condition that the information was made public. Thus in 1779, for example, James Berkehout and Thomas Clerk petitioned parliament and said that they had discovered a new form of red dye. The petition was referred to a parliamentary committee which heard evidence and accepted letters of recommendation from various chemists and also, significantly, from an enthusiastic Manchester Committee of Trade, who were getting the knowledge without putting up the money themselves. The recommendation was favourable and as a result the petitioners were awarded £5000 (a far larger sum than the premiums offered by any of the societies) 'upon a proper Discovery to be made by them for the Use of the Public of their Method of Dying Scarlet and Crimson...'.²⁹

Rewards by the state and rewards by interested individuals were not two separate, exclusive ways of encouraging innovation. Thus individual inventors would approach a group or even interested individuals and offer to make an invention public; or again the state rather than a society, would offer an award for the solution of a specific technical problem such as the calculation of longitude.³⁰ Perhaps the best example of this interrelation is in the case of Samuel Crompton who offered to publish his invention, the 'mule', if a public subscription were raised. The subscription, however, produced very little (£100) and, when it was realized that he would not be rewarded adequately and that the Society of Arts would not support him, he petitioned parliament for a reward, and with the support of the same Manchester Merchants who had offered him a reward in the first place, he was finally given a grant of £5000 in 1812.³¹

The fact that the sector was not opposed to rewards by the state (i.e. to all state intervention in the sphere of new technology) gives a clue to its attitude to patents. If patents were monopolies they were, as the Society of Arts had shown, an unacceptable form of state intervention. If, however, they protected the right of inventors to a material reward and if they did (eventually) increase the stock of publicly available technological knowledge they might not be regarded as beyond the pale. This essentially ambiguous attitude of a hegemonic sector closely involved in shaping the ideal of unfettered technological innovation was to play a crucial role in shaping the law of patents.

III. Patent grants

During the latter half of the 18th century, therefore, the ideal of innovatory progress by means of technological innovation had come to be strongly entrenched across a wide spectrum of British society. An institutional framework had sprung up to encourage this ideal. It provided the know-how with which new inventions could be facilitated and, within its loose framework, lent social prestige and, in some cases, granted monetary rewards to those who helped fulfil the ideal. Furthermore, the ideal was usually articulated in such a way as to suggest that it could best be fulfilled by allowing for the free exchange of knowledge and limiting or indeed abolishing the constraints of organized intervention in the economy.

Against this background it seems anomalous that the number of patents granted increased significantly and steadily after 1760 - after having been relatively stable in the preceding century (since 1659).³²

Number of patents granted

1660-9	31	1730-9	56
1670-9	51	1740-9	82
1680-9	53	1750-9	92
1690-9	102	1760-9	205
1700-9	22	1770-9	294
1710-9	38	1780-9	477
1720-9	89	1790-9	647

These statistics have long held a fascination for economic historians. Attempts have been made to use them as an index of inventive activity or even of technological change - thus suggesting that this change can be related to other quantifiable indicators of economic growth.³³ Serious objections can, however, be raised against the validity of using patent statistics in this way. First, it must be doubted whether technical inventiveness can be quantified, for there is no assurance that all, or even most of, the significant inventions in a particular period were patented at all. In fact it has often been argued that improved techniques were the result of innumerable small and mostly unpatented improvements.³⁴

Second, there is no reason to suppose that patents can be qualitatively compared, for among patents there are obviously inventions that are mere flights of fantasy on the part of inventors. There are also a large and

varying number of inventions which are simply of little or no commercial importance. The quality of patents is influenced both by the scientific knowledge available to allow a judgment on whether they are practicable or not, and also by the requirements of patentability laid down by the law. Even if allowance could be made for these factors, the bare statistics could not reveal whether a larger number of patents would have more influence on manufacturing techniques than a smaller number.

A more probable immediate reason for the popularity of patents as a mode of controlling units of new technology was that patents were of great (or potentially great) economic value to some entrepreneur/capitalists. Evidence of this can be found in the careers of the two major 18th century patentees, Richard Arkwright and James Watt - the latter in partnership with Matthew Boulton. Arkwright, by shrewd manipulation of licence agreements for the use of his patent, managed to earn large sums. His practice was to licence his competitors to use his machines. These licences limited the amount of cotton they could produce using the machines. Additional licence fees would have to be paid for 'overspinning'.³⁵ Although Arkwright's patent was eventually overturned by the courts his income from it was not reduced, for as Chambre J (in an early decision, Hare v Taylor,³⁶ which alluded to Arkwright's patent) explained

'His [Arkwright's] patent was not overturned till near the time when it would have expired; very large sums had been paid for patent machinery, of which sums the main part was for the privilege of using the patent right; but no money which had so been paid was ever received back.'

Direct evidence of how lucrative a patent could be is available in the instance of Watt's steam engine patent (which was extended for 25 years by an Act of Parliament in 1775³⁷). Watt and his partner, Boulton, also extended the scope of their patent by ancillary contracts since they too did not sell their patent rights directly but charged a royalty based on a percentage of the cost of the coal saved by new machines which they supplied or by old machines which they converted to work according to their patented 'methods'.³⁸ In 1799, in an effort to have their patent extended further, Boulton and Watt made detailed calculations of the savings their patented machines had effected: They estimated what they ought to have been paid on the basis of a royalty of one third of the savings brought about by this patent and what they had in fact earned. They concluded:

'By a correct statement made in the Year 1793, it appears that Boulton and Watt's Engines compared with Common ones doing the same Work, effected Savings in One Year of £38,605 reckoning Coals at 42/- per Wey; Boulton and Watt's third part of which amounted to £12,868 but in fact they only received £5,133:7:0.

And though the price of Coals has been stated at only 42/- per Wey (that being the price settled between the Adventurers and Boulton and Watt) their real cost was 63/- per Wey and the Amount consequently £57,907. Boulton and Watt's third part of which should have been £19,302 instead of £5,133:7:0.' 39

On their own figures therefore, which would probably have been conservative since they were arguing that they had not been sufficiently rewarded, Boulton and Watt had made more than £5,000 out of their patent in a single year - an enormous sum for the 18th century.

Patents were also of economic significance in the 18th century because they provided channels for investment. The economic historian, P Mathias, has noted with reference to the patent system of this period:

'[T]he side of the patent law system which is too often ignored lies in its effects upon the inducement to invest rather than the inducement to invent. It created incentives for persons to back an inventor with risk capital in the riskiest of all ventures by offering them monopoly returns in the case of success. Often backers took their rewards in licences to operate a patent themselves without fee.' 40

Finally, indirect evidence of the economic significance of patents is offered by the cost of obtaining them: A solicitor's bill regarded as typical in 1808 totalled £125:14:9 for a patent in England.⁴¹ It included no fewer than forty separate items. Yet a further fee was necessary if the patent were to be extended to the colonies. Separate administrations required that most of the items be duplicated if the patents were to be extended to Scotland and Ireland.⁴² The fact that patentees were prepared to risk such large sums in obtaining the relatively uncertain protection that 18th century patents offered, is prima facie proof of their perceived potential value.

IV. Patent law

The economic success of individual early inventor-entrepreneurs cannot be regarded as a sufficient explanation for the revitalization of the patent system. Early (Elizabethan) monopolists had also made money out of monopolies without this contributing to their preservation.. The explanation

for the continued survival of the patent system can, it is submitted, rather be found in its ability to change in such a way that it was not incompatible with the dominant common sense.

Change was facilitated by the long period of dormancy, from more or less 1650-1750, during which hardly any decisions in patent cases were reported.⁴³ This enabled the courts to interpret the law afresh. In 1785 Wm Weston, one of Boulton and Watt's attorneys, noted that 'from whatever cause it has arisen, it may with truth be said that the books are silent on the subject and furnish no clue to go by, in agitating the Question "What is the Law of Patents?"'⁴⁴ As late as 1795 Eyre C J in Boulton and Watt v Bull⁴⁵ could still say: 'Patent rights are no where, that I can find, accurately discussed in our books.'

The power of the courts to shape patent law was further facilitated by a procedural change made in 1753. As a result of a complex dispute about who should try the validity of the patent of a certain James, the Privy Council effectively divested itself of all jurisdiction in the validity of patents and left all such decisions to the courts of common law.⁴⁶ It is probable that this led to increased flexibility for the courts (unlike the Privy Council) were institutionally separated from the unreformed bureaucracy which processed patent grants and which could be expected to demand adherence to established interpretations.

In the latter half of the 18th century the courts took advantage of the opportunity provided by the dormancy of the old system and by the procedural reforms to remould patent law. In a series of decisions, many of them arising from matters involving Arkwright and Watt themselves, the courts, while preserving the formal requirements of s 6 of the Statute of Monopolies, reshaped patent law. Their modifications are best illustrated by comparing the legal position which emerged towards the end of the 18th century with that (described above) which existed shortly after the passing of the Statute of Monopolies. (A warning must be noted: owing to the vagaries of 18th century law reporting - the first collection of patent cases appearing only in 1816⁴⁷ - changes might not have seemed quite as clearcut to contemporaries as they appear to be if reported decisions are analysed.)

A. Legal status

The most basic change effected by the courts in the 18th century was that they, in practice, recognized that in certain, defined circumstances a person had a right to a patent. While the wording of the actual grant continued to speak of a privilege granted by the Crown, the courts accepted that inventors had rights which could be embodied in a patent and enforced through it. The mercantilist idea that the state could choose to intervene by granting or refusing a patent in specific instances on general grounds of public policy was effectively overturned. This sentiment was clearly expressed in 1785 by Lord Loughborough in Arkwright v Nightingale:⁴⁸

'We must never decide patent rights upon any idea of public benefit; a cause between two individuals cannot be determined upon consequential reasons, that it would be beneficial to the public that one should prevail. The law has established the right of patents for new inventions; that law is extremely wise and just.'

The courts in the 18th century did not define precisely what they meant by the 'right of patents' (nor did the legislature). In other countries where, under the influence of the enlightenment, a clearer break was made with past forms, there was less ambiguity: Thus the preamble to the patent law passed in 1791 by the French Constitutional Assembly stated boldly,

'that every novel idea whose realization or development can become useful to society belongs primarily to him who conceived it, and that it would be a violation of the rights of man in their very essence if an industrial invention were not regarded as the property of its creator'.⁴⁹

A similar stance towards the rights of inventors was adopted in the United States of America on the basis of an interpretation of the Eighth Amendment to the Constitution which gives Congress the power to 'promote the Progress of Science and the useful Arts' by giving to inventors the 'exclusive Right' to their 'Discoveries'.⁵⁰

The move of the courts in Britain towards de facto recognition of a right to a patent was nevertheless enough to ensure a more liberal interpretation of patents in favour of the holder of the patent right - the patentee.⁵¹ It was also an indication that the focus in the control of technology was moving from public law (intervention by the state) to

private law (rights of individuals). This point was noted in the contemporary jurisprudence: As early as 1762 Adam Smith remarked in his Lectures on Jurisprudence: '[T]he property which one has in ... a machine he has invented, which continues by patent in this country for 14 years, is actually a real right.'⁵²

The 'right' of a patentee, whether it be in the juridic form of property right or the product of a contract⁵³ between the patentee and the state, was granted because the patentee as an individual had 'earned' some reward because of the contribution which he had made to new technology and thus to progress: As Ashurst J argued in support of Watt's (somewhat dubious) patent in 1799:

'Every new invention is of importance to the wealth and convenience of the public; and when they are enjoying the fruits of a useful discovery, it would be hard on the inventor to deprive him of his reward.' 54

B. Subject matter

In the mercantilist period the words 'new manufacture' in the Statute of Monopolies had been interpreted to mean 'new industry' and patents had been deemed to be valid only if they would serve to secure the introduction of such industries. In the 18th century the term was reinterpreted to refer to new technology, for it was believed that such technology would automatically lead to the introduction of new industries. The modern concept of 'subject matter' (which means that which can be patented) has its legal roots in an interpretation of the term 'new manufacture' in Boulton and Watt v Bull⁵⁵ in which it was held that an abstract scientific principle could not be patented but only inventions which resulted in an article which was industrial and vendible. In his judgment, delivered in 1795, Heath J held that '[s]uch manufactures are reducible to two classes. The first class includes machinery, the second substances (such as medicines) formed by chemical and other processes...'⁵⁶ Further glosses on this definition by the courts followed the same line of reasoning (and remained the basis of the definition of subject matter until the definition was codified in 1977⁵⁷).

C. Patents of addition

A further change followed from the changed nature of inventions for which patents were sought. In 1776 Lord Mansfield, in the case Morris v Branson⁵⁸, changed the rule laid down in the Elizabethan judgment in Bircot's case⁵⁹ that a new addition to an existing product or process was not patentable. Lord Mansfield's judgment (if there was one) has not survived but merely that he had suggested to a jurymen that, if the objection that the patent were a mere addition were upheld, 'that objection would go to repeal almost every patent that was ever granted' and that, as a result, the patentee was granted £500 damages by the jury. From this somewhat oblique reference the principle seems to have crept into the law: Morris v Branson was quoted with approval in 1795 by Buller J in Boulton & Watt v Bull⁶⁰ and the principle confirmed in 1799 by Grose J in Hornblower v Boulton & Watt.⁶¹ The fact that patents of addition were allowed underlines the shift in the perceived function of the patent system from the encouragement of whole new industries to the encouragement of new techniques. Patents of addition have remained part of modern patent law.⁶²

D. Specification

A crucial change to patent law came about gradually with the introduction of a compulsory specification as a condition for the granting of a patent. In other words, a patentee would have to lodge a detailed description of the operation of the patent enabling others to make the patented article or substance when the patent had expired. The Statute of Monopolies made no provision for such a condition. As has been seen above, early patents concentrated on the introduction of new industries the workings of which could hardly be described in anything less than a treatise. However, the general search for technical solutions to specific problems meant that the subjects for which patents were required became more narrowly circumscribed and accurate definitions of the patent more important. In the first half of the 18th century inventions had become more technical. It became common practice to grant patents only on condition that the inventor specified his invention precisely. By the middle of the 18th century it was part of the procedure of the patent grant to demand a detailed description.⁶³ In 1778, in the case of Liardet v Johnson,⁶⁴ Lord Mansfield reconsidered the function of the specification. Since the claim of introducing a specific new industry by means of the patent had been abandoned he held that the specification now had to embody the function of the patent. In his words:

'The ... point is whether the specification is such as instructs others to make it. For the condition of giving encouragement is this: that you must specify upon record your invention in such a way as shall teach an artist, when your term is out, to make it - and to make it as well as you by your directions: for then at the end of the term, the public have the benefit of it. 65

This new function of the specification, and indeed of the patent, can easily be reconciled with the general approach to technical information which has been outlined but did not immediately settle the function of the specification.

In 1781 Arkwright's famous patent for his water-frame was rejected by the courts in the case of Arkwright v Morduant⁶⁶ 'on the ground that the patent was void, from obscure and incomplete specification of the invention'. However, the finding did not deter Arkwright, for in 1782 he petitioned parliament asking that his patent be declared valid saying that the vagueness of his specification was intentional since,

'[t]o prevent his inventions getting abroad to foreigners, Mr. Arkwright purposely omitted to give so full and particular a description of his inventions, in the specification of his last patent, as he would otherwise have done, believing, from the concluding clause in the patent, that he need not so fully describe'. 67

The argument which Arkwright put forward might have succeeded in the mercantilist period when patents formed part of a policy designed to encourage and protect domestic industry. By the 1780's, however, the courts had declared that this was not the object of the patent system; but rather that patents were granted as an inducement to make public new technology.

Arkwright seems to have been little inhibited by his own admission and in February 1785 brought a successful action against one Nightingale for infringement of his patent.⁶⁸ In this action he led the evidence of various 'experts' and successfully proved the sufficiency of his specification. However, his opponents reacted strongly and in June 1785 his patent was finally defeated.⁶⁹ In this final case Arkwright's petition was used as evidence against him and the Judge stated the law on specifications unequivocally:

'A patentee must disclose his secret in his specification, so that others may be taught the art by it, to do the thing for which the patent is granted; it must teach what the art is, and put the public in possession of the secret, in as ample and beneficial a way as the patentee himself uses it.'⁷⁰

The specification has remained an essential part of patent law. Indeed modern patent bureaucracies concentrate on processing and testing the adequacy of specifications.⁷¹

E. Inventor

It has been noted above that, at the time the Statute of Monopolies was passed, the word, inventor, had a far wider meaning than that current in ordinary speech today and included, the assembler of the ideas of others and 'the bringer in' or discoverer. By the end of the 18th century this definition appears to have been largely rejected in common usage. Thus in R v Arkwright⁷² Arkwright's invention was attacked inter alia on the grounds that he had not invented the patented machine himself - although he had undoubtedly assembled and improved the various parts that made up the machine and in so doing had been instrumental in promoting a new industry.

This rule that the invention had to be the idea of the inventor was limited in one way. The rule laid down in the early (1697) case of Egeberry v Stephens⁷³ that the term inventor also included the first importer of patentable ideas, was followed - albeit for pragmatic reasons. In Boulton and Watt v Bull⁷⁴ Eyre CJ held:

'That case [Egeberry v Stephens] establishes, that the first introducer of an invention practised beyond the sea, shall be deemed the first inventor; and it is there said the act is intended to encourage new devices useful to the kingdom and whether acquired by travel or study, it is the same thing.'

He continued to say that 'this construction is now universally accepted in our courts', and argued:

'Whether this construction be logically correct is not material; but it is of greatest importance for the improvement of the trade of the realm that all possible encouragement should be given to the introduction of discoveries useful to man from every region of the globe...'

This exception remained part of English law but has increasingly been recognized as an anomaly.⁷⁵ It does not form part of the EEC patent introduced in 1977.

F. Novelty

The importance of the patent as a means of conveying information led to the re-examination of the degree of novelty required in a patent. While previously an invention had been regarded as 'new' if it had not been used within the realm within the memory of man the focus in the 18th century was on new knowledge rather than industry. This meant that prior publication became a relevant factor. In the case of Liardet v Johnson⁷⁶ the defence listed a whole battery of previous publications which described the patent. Although these succeeded in convincing the editor of the Monthly Review⁷⁷ (when published in pamphlet form the following year) that the invention was not new, they were less successful in convincing the jury - perhaps because Lord Mansfield in his summing up stressed that what was required was not absolute novelty but that the invention was not in the knowledge of the trade at the time when the letters patent were granted.⁷⁸

The result was that the courts, while moving some way towards the ideal of open information suggested by the new role of the specification, were still bound by the Statute of Monopolies to the extent that it limited the search for prior publication to the trade, within the realm, thus still thinking in terms of patents designed to introduce new trades. Nevertheless, a trend towards emphasizing novelty had been set. Since the 18th century standards of novelty have been raised even further - most recently by the Patents Act 1977.⁷⁹ The trend towards strict requirements of novelty is also part of the focus on new technology.

V. The exercise of power in the period of transition

Perhaps the most striking feature of the increased use of patents as a mode of controlling new technology in the latter half of the 18th century (and of the changes in patent law during this period) is the relative ease with which it was accomplished. However, it should not be thought that, because the changed patent system was so easily accepted, there was no opposition to it. Opposition came from those, at both ends of the social spectrum, who were opposed to all innovational change. At one end, that

of the established worker threatened by new techniques, the opposition is illustrated by the 'cotten spinners and others' who in 1780 petitioned parliament against 'an Evil of Great Magnitude... the Introduction of Patent Machines and Engines of Various Descriptions'⁸⁰ and who, before that, in 1779 and 1767, had attempted to hold up innovational change directly by smashing the offending machinery.⁸¹ At the other end of the spectrum, an analysis of the debates of the House of Lords shows a general suspicion of innovation expressed in a principled opposition to rewards for innovations, whether the rewards were made in the form of patent grants or cash.⁸²

Both these groups appealed to the traditional notion of a patent only being granted for socially desirable change since otherwise it would be 'mere monopoly' and therefore despicable. Thus the cotton spinners in their petition to parliament did not deny that the patent machines were more efficient than they were, but stressed the unemployment that machines caused and the lower quality of machine produced goods which would have a negative effect on British trade. In other words they were arguing along the lines which the courts were decisively to reject in 1785 in R v Arkwright⁸³, that the consequences of the patent and its effect on the public should be taken into consideration when determining the validity of a patent.

In their reliance on the traditional criticism of patents as monopolies 'traditionalists' were joined by certain established factory owners. Although in general terms factory owners formed part of the hegemonic sector which supported progress based on technological innovation, they were opposed to patents for innovations which would upset the pattern of their operations. For example, a body of manufacturers in Manchester in 1781 organized a committee to protect its interests.⁸⁴ This committee was initially set up to combat Arkwright's attempt to sue them for the infringement of his patent. It proceeded, however, to oppose patents in general and to devise alternative methods of encouraging and rewarding inventors.⁸⁵

In the light of all this opposition against the patent system it is clear that the protection both of individual patents and of the system in general required an exercise of power. It is submitted that the structure of British society in which a fairly wide range of persons had access to the ruling (aristocratic) elite provided the framework within which such power could be exercised.

A. Power and individual patents

The relative uncertainty of the principle governing the law relating to the control of new technology allowed patentees and their associates to exercise power directly - in Lukes' terms outlined above,⁸⁶ in a one-dimensional form - in order to ensure that specific decisions were made in their favour. The events surrounding Watt and Arkwright's patents provide several illustrations of the exercise of power of this kind. The best documented example is the extension in 1775 of the fourteen year period of Watt's patent for another 25 years.⁸⁷ In his article, 'Matthew Boulton and the Art of Parliamentary Lobbying', E Robinson has shown that the extension depended on the shrewd and calculated persuasion of members of parliament by Watt, and particularly by Boulton, who had numerous contacts in the ruling elite.⁸⁸

In the legal defence of their patents patentees were also able to call on supporters of innovational progress. Prominent members of the Lunar Society testified on behalf of Arkwright in trials involving his patent.⁸⁹ Watt too was able to draw on the leading scientists of the day to testify on the validity of his patent: Sir William Herschel, the astronomer, J A De Luc, the Swiss chemist, Samuel More, the Secretary of the Society of Arts and Professor Robison of Edinburgh all gave evidence.⁹⁰ A great deal of their evidence was about Watt's character rather than his work. Much of the evidence was legally irrelevant yet crucial to the success of the case. As, Farey, an early 19th century patent expert, explained:

'According to the ordinary practice of the Courts of law in other cases, Mr Watt's patent ought to have been annulled for the insufficiency of the specification, which is a series of definitions of principles of action without any description of the means of carrying them into effect. And it is certain that if the specification had not been supported by scientific artists, who stated that it was sufficient in their opinion, and if the merit of Mr Watt's engine had not been so universally allowed... his right could not have been established as a mere question of law....' 91

There is evidence that Boulton and Watt regarded efforts at exercising power to protect their patents as highly important. In a letter to Watt after Arkwright's patent had been defeated, Boulton intimated as much:

'If he [Arkwright] had been a more civilized being and had understood mankind better he would now have enjoyed his patent. Hence let us learn wisdom by other men's ills.' 92

Finally, E Robinson has unearthed evidence which suggests that at the time of the trials involving Watt's project, Boulton and Watt took advantage of the relative openness of the social structure to become personally acquainted with and to influence the judges in these trials.⁹³ If their actions were a decisive factor in the decisions of these judges it would be the clearest of all examples of a direct exercise of power by individual patentees during this period.

B. Power and the patent system

In the preservation and evolution of the patent system as a whole power was exercised more indirectly. Changes could only be effected which did not threaten the aristocratic elite's sources of power in property and patronage. The system could be adequately defended (and even changed) in as far as it succeeded in discounting the inherent 'weakness', that patents are in a sense monopolistic privileges granted by the central government, and in stressing that they are (property) rights. This point was cleverly made by Wm Kenrick, a contemporary pamphleteer. Kenrick, a strong supporter of the patent system, argued that the distinction which some lawyers drew between incorporeal rights (of which patents were the most important example) and corporeal rights, serve no purpose. For, he contended, 'there are incorporeal rights as readily ascertainable by law and as justly entitled to the protection of it as others which are corporeal'.⁹⁴ In 1775 in a remarkable passage (which foreshadowed some of the more radical arguments of the 19th century) he explained that incorporeal property, such as patent rights, complemented the early property owning order:

'Every man that Providence sends into the world has a natural right to live in it; and if to live in it, to the means of subsistence. In the present state of society, however, the man who is born to no estate, real or personal, finds the means of subsistence already engrossed by prior occupants; he is therefore of necessity reduced to the creation of new means of livelihood; a right to all corporeal property being already secured to others he must have recourse for subsistence to the incorporeal property he is endowed with by Nature in the use of his personal talents; he must live by his wits or his labour.' 95

The conceptualizations of patent 'rights' which, as has been seen above, were developed embryonically by the courts towards the end of the 18th century served to support Kenrick's line of reasoning.

The patent system was also legitimated in the eyes of the aristocratic elite by presenting it as part of a natural order. It has been noted how in this period a hegemonic sector played a crucial role in gaining acceptance for unfettered innovational progress as part of the natural order. Protagonists of the patent system suggested that patents were the 'natural' instrument for achieving such progress. Thus a contributor to the Gentleman's Magazine of 1785 claimed a central place for patents in a perfect society - a society which followed 'the dictates of both reason and gratitude [by rewarding its inventors]... for they are held to have contributed to civilize human nature, to improve the morals, polish the manners, relieve the wants and increase the happiness of the species'.⁹⁶ Similarly, Adam Smith conceived of a 'natural order' in which the patent system operated as a relatively unproblematic exception to the rule of minimum state interference in the economy.⁹⁷

As far as the preservation of the system as a whole was concerned, here were clearly structural forces which operated in conjunction with patentees to legitimate it. Changes in the law can also be explained in terms of indirect pressures to increase the legitimacy of the system. Changes in the procedures for granting patents, however, were subject to different forces. It is not unreasonable to assume that a cheap, simplified method of granting patents which did away with the formalities of the early modern bureaucracy would have been in the interest of patentees. Such a step would, however, have threatened the aristocracy's traditional authority to exercise power in the central administration by means of patronage.

In the 18th century the issue of general administrative reform was raised by Watt, the most articulate spokesman of the patentees.⁹⁸ It does not seem as if such reforms were considered seriously by the authorities in this period. This is an indication that power was exercised in what Lukes has called a two-dimensional form - i.e. by keeping the matter off the agenda. The fact that, in contrast to the 19th century, the issue was so rarely raised, points to an even more indirect exercise of power, the exercise of power by the effective exclusion of the insight that a problem existed - in Lukes' terms, the three-dimensional view of power. In as far

as class ideals had not yet emerged, the hegemonic dominance of the 'open' aristocracy ensured that reforms would not be considered. This most subtle form of power could therefore be exercised as a consequence of the (largely) pre-class 18th century social structure.

VI. Summary and conclusion

A. Patents remained important in the control of new technology in the 18th century but both their function and form changed. In function there was a shift of emphasis from control of new industries to direct control of units of new technology. The legal form of patents changed from a privilege granted in public law by the state to a de facto private right of a novel kind but analogous to a property right. The change in⁹⁹ function can be understood in terms of Renner's analysis outlined above as analogous to the changes in function undergone by other branches of the law in different modes of production. The change in legal form is, however, a factor outside the model which Renner put forward, since he did not consider the possibility of a legal 'structure' (such as the patent system with its formalities) remaining intact while the underlying legal form changed. The significance of this change is further considered in the concluding chapter.

B. If the period described in this chapter, the start of the Industrial Revolution, is equated with the beginning of what Holloway and Picciotto call the 'liberal moment of the state'¹⁰⁰ it is noteworthy that control of new technology was, to some extent, liberated from the grasp of the state. The termination of the power of the state to decide relatively freely whether or not to grant a patent in a specific instance created the basis for a 'market' in which units of technology defined as a matter of course in terms of general legal rules, could be treated as commodities. The existence of the 'market', however, depended on the involvement of the state (acting through a cumbersome and expensive bureaucracy) in defining the commodity. The contradiction between an ideology which denied the significance of state intervention and a system of control of new technology which depended on such state intervention, was not an issue in the 18th century.

C. If the changes in the patent system are conceived in Weberian terms, additional features require comment. The movement towards a concept of patent rights can be equated with the general development of law in the

direction of logical, formal rationality which Weber regarded as characteristic of law in modern industrial societies¹⁰¹. Patent 'rights' are abstract legal concepts. As Weberian theory predicted, legal notables (lawyers acting, in this instance, through the courts) had played a part in introducing these concepts. In terms of Weberian theory one could expect them to continue to develop the logical implications of the legal forms that had been adopted. However, in the administrative apparatus which granted the patents, equivalent or parallel development towards logical formalism had not, as Weber might have expected, taken place. The complex 'early modern bureaucracy' continued to follow extrinsically formal procedures in the application of seals and the processing of patent applications by various offices which served no apparent 'rational' purpose except that of providing sinecures for the office holders.

D. This disjunction between the development of the 'legal' elements of the patent system and the virtual stagnation of the bureaucratic elements has been explained in terms of the structural features of 18th century society. It has been shown that the dominant (aristocratic) elite allowed (and participated in) the direct exercise of power in the defence of individual patents and the simultaneous protection and adaptation of the patent system. It has also been suggested that the same elite, through the largely indirect exercise of power, excluded the patent administration from the ambit of change. This explanation for the particular changes could not have been deduced from a general model of the emergence of law but required examination of actual structures.

E. The ideological sector which, by propagating a new attitude towards technological innovation, had served as a catalyst for change, remained within the structural and hegemonic constraints of pre-class society. The sector included men of differing social rankings (landed gentry, manufacturers and workmen etc.) which, in the 19th century, were to form the basis of a division of society into different social classes. In the 18th century this division, with its competing class ideologies seeking hegemonic domination, had not yet developed. Nor had a large body of patentees or of professionals dealing exclusively with new technology - i.e. interest groups/fractions situated within a class structure and providing ideological support for the patent system - come into existence. Although, to a large extent, the legal form of the patent system was firmly established during the latter half of the 18th century, the social structure in which the efficiency and eventually the legitimacy of the system as a whole would be questioned, had only begun to emerge.

CHAPTER 4 - SOCIAL CHANGE AND NEW IDEALS

I. Introduction

In the 19th century the effects of the Industrial Revolution of the 18th century increasingly began to be felt not only on further industrial development and a concomitant, continued demand for new technology but also on the social structure of society as a whole. In this chapter the impact of these changes on views on how new technology should ideally be controlled will be explored and the positions of influence of three emerging social groupings discussed. In subsequent chapters a more chronological account of the creation of the modern patent system will be resumed against the background of these developments. In order to focus specifically on new technology some very broad assumptions about social developments must be made.

The major change in the social structure of early 19th century Britain was a movement towards a society divided along the lines of social class.¹ A synoptic view would suggest that the conditions for the emergence of class consciousness were formed by the productive relations introduced by the industrial revolution - i.e., most importantly, through the factory system but also through increased urbanization which loosened the 'traditional' bonds between employers and employees and which, at the same time, brought employees (workers) from different enterprises closer together. Under these conditions workers became conscious of their shared interests - of their relationship as a class.² At about the same time an awareness of class interests opposed to those of both the aristocratic elite and the working class began to emerge among industrial employers - the entrepreneur/capitalists who were to make up the core of what became known as the middle class. Finally, the aristocratic elite too became aware of its class interests. In broad terms therefore it could be said that British society was developing towards a three-tier structure of upper (aristocratic), middle and working classes.

Emerging social classes were not the only 'new elements' in the social structure of 19th century Britain. Within the middle class occupational groups were organising themselves into professions with their own areas of expertise and their own ideologies.³ Early pre-industrial 'professionals'

such as doctors and lawyers were also reorganizing. These changes were, it has been suggested by M S Larson in her work, The Rise of Professionalism⁴, 'an accessory development' of the great transformation wrought by the Industrial Revolution. This transformation she has noted, led to the replacement of a relationship of patronage with one in which a 'market' could be created for professional services. In order to take advantage of this potential market a 'collective effort' on the part of an occupational group was required.⁵

Class consciousness and the related, more specific, ideals of the emerging professions implied a move away from the unquestioning acceptance of the existing social order. In other words, the hegemonic dominance of the old elite came to be challenged by the newly emergent social classes with their own 'common-sense' view of how society ought to be organized. This challenge inevitably led to a measure of class conflict.

These structural changes were to have a significant impact on the further development of the law relating to the control of new technology, for members of the various classes shared notions about technological progress and about how the technical knowledge required for it should be produced and controlled. In the sections that follow the content of the ideology put forward as common sense in the sphere of the production and control of new technology by 'ideologies' of the middle and working classes will be examined for indications of developments which one would expect to be supported by the particular class. At the same time the dissemination of their ideas will be studied in order to ascertain, as clearly as possible, to what extent their ideas became hegemonically dominant. The ideas of the old aristocracy (the emerging upper class) will not be examined separately but their residual power will be borne in mind and considered when actual changes in the system of control of new technology are discussed in the following chapter. In a further section of the present chapter the social basis and ideological assumptions of the professional group most closely connected with the control of new technology will be considered in detail for, although they were, to a large extent, merely a fraction of the emerging middle class they were in a uniquely powerful position to shape developments in this sphere.

II. The classical economists and the middle class

By the time the newly emergent social classes came to formulate the assertive ideologies which would justify models of society in which they,

rather than the old aristocracy, would play central parts, various ideals other than those of a natural order based on patronage and property were already beginning to surface. Amongst these were some of the ideas of early economists and particularly of Adam Smith. In the 19th century Smith's ideas remained influential, particularly in the heterogeneous intellectual school known as the classical economists.⁶

This school is of great importance, for in the first half of the century the theories of the classical economists came to dominate economic thought and eventually became the basis for almost all debates on economic matters. In particular the emergent middle class claimed to adopt the tenets of classical, or as it was sometimes known, 'political economy', as descriptive of its ideal of how society ought to be composed.

The significance of classical economy lies both in its content and in the extent of its dissemination - among members of the nascent middle class and among other classes over which the middle class wished to extend its hegemonic domination. In order to explain the potential of classical economy, both to reveal the interests of the middle class and to justify the protection of these interests in the sphere of new technology, the content of the ideas of the classical economists must first be analysed. Once this has been done one can consider how these ideas were spread.

A. Content

In general most of the classical economists shared the ideal of unfettered technological progress which had emerged in the 18th century. Technological knowledge, it was believed, following Adam Smith, would grow in a society in which a division of labour existed and in which the role of the state was limited to the creation of conditions in which the 'invisible bond' of the free market economy could ensure development and progress.

(i) Adam Smith: In the Wealth of Nations Smith explained how the division of labour led to the production of knowledge:

'A great part of the machines made use of in those manufactures in which labour is most subdivided, were originally the inventions of common workmen, who, being each of them employed in some very simple operation, naturally turned their thoughts towards finding out easier and readier methods of performing it.' 7

A close reading of Smith's writings on the creation of new technology shows, however, that he did not regard all technological innovation as equally important. In his Lectures⁸, where he dealt with the problem at greater length, he distinguished between the worker whose mind was focused by the problem with which he had to deal and the 'philosopher' who was capable of something as profound as the invention of the steam engine since he had a broader overview of the problems involved.⁹ It thus appears that Smith recognised a hierarchy of inventions in which the more 'abstract' inventions are superior although they too ultimately depend on the division of labour and the skills of artisans for their implementation.

N Rosenberg has summarised Smith's position on this point as follows:

'In short, the "capacity" to invent cannot be assessed or measured in absolute terms; the concept is meaningful only in relation to the complexity of the existing technology and the degree of creative imagination required in order for new "breakthroughs" to occur. Presumably, then, even if the alertness and intellectual capacity of the common labourer remained constant, or increased somewhat, it would be inadequate to perform the increasingly complicated intellectual feats required of an inventor in a technically progressive society.' 10

The implication of this was that, as society advanced, only the 'philosopher', i.e. the man with a wide education, would be able to make 'real' inventions, while the labourer would be limited to the 'mere' improvements that followed 'inevitably' from the division of labour. As far as important inventions were concerned, therefore, it did not matter that, in Smith's view, the division of labour with its increased specialization also led to a numbing of the workers' intelligence since, as long as the division left a class of broadly educated 'philosophers', they would be able to take care of the opportunities for invention offered by the division of labour. Such a 'natural order' of society was ideal for the production of knowledge and could be reinforced in several ways.

For those directly involved in the productive process Smith advocated only a limited 'practical' education which on the one hand ameliorated the inevitable hardships of the division of labour and on the other improved the 'dexterity' of the workers. The expense involved could easily be justified in terms of an increase of wealth:

'The improved dexterity of the workmen may be considered in the same light as a machine or instrument of trade which facilitates and abridges labour, and which though it costs a certain expense, repays that expense with a profit.' 11

Education for workers should be organized by the state - though as far as possible be financed by those receiving the education - since it would help to preserve a stable social order. For the same reasons of social stability and heightened skills the efforts of the workers and therefore the fruits of the division of labour might be further stimulated by small rewards for practical improvements. In Smith's words:

'Premiums given by the publick to artists and manufacturers who excel in their particular occupations, are not liable to the same objections as bounties. By encouraging extraordinary dexterity and ingenuity, they serve to keep up the emulation of workmen actually employed in these occupations, and are not considerable enough to turn towards any one of them a greater share of the capital of the country than that what would go to it of its own accord. Their tendency is not to overturn the natural balance of employments, but to render the work which is done in each as perfect and compleat as possible.' 12

In contrast Smith suggested a far broader education for those at the top (in effect members of the upper and middle classes) who, largely free from the ravages of the division of labour, were able to cope with more profound problems. For the production of their qualitatively different knowledge they required a broader, though still 'useful', education so that they could consolidate the inventive opportunities offered by the division of labour. Furthermore, they should be allowed to exploit knowledge in the marketplace by being granted temporary monopolies through the existing patent system.¹³

Of central ideological importance to the middle class was Smith's distinction between trifling improvements and real inventions which were to be rewarded in different ways. It provided a basis for an argument to exclude lesser inventions from the legal apparatus of the patent system while supporting patents for major inventions. Thus a distinction could be drawn between the new technology produced by working men and the new technology produced by 'true' inventors.

In dealing with the problems of the inventive process Smith was in fact formulating the notion of an interventionist state which belied later vulgarizations of his work which suggested that he supported a completely laissez-faire approach.¹⁴ State intervention was suggested in two different but complementary ways: first by encouraging the social conditions most favourable for the production of knowledge; and second, direct intervention

into the market itself by means of grants of patent monopolies. The latter role of the state was to be reformulated and more clearly justified by later classical economists.

(ii) Jeremy Bentham: Of the later writers who considered the production and control of new technology the most detailed treatment is found in the work of Jeremy Bentham, the influential social philosopher and economist.¹⁵

In many ways Bentham's work was similar to Smith's. He too saw new technology emerging from the division of labour.¹⁶ He too perceived the need for specialised 'useful' education - '... for the extension of the new system of instruction to the higher branches of learning, for the use of the middling and higher ranks in life'.¹⁷ He too saw the utility of rewards for smaller inventions in contrast to patents for larger inventions.¹⁸ In these respects Bentham offered the same ideological support for middle class ideals as did Smith.

The development in Bentham's work lay in his far more detailed treatment of the patent system. In his Manual of Political Economy, Bentham argued that an invention or discovery involved a great deal of time, money and effort and also included an element of risk. Since the invention could only be used for the general increase of knowledge and wealth if there were a person willing to exploit it, it must, for a period, be reserved for the exclusive use of a particular person.

'But [Bentham argued] such exclusion can no otherwise be put upon any body but by the hand of law: and hence the necessity and the use of the interposition of law to secure to an inventor the benefit of his invention.' 19

Bentham had no difficulty in immediately equating this law with the existing English patent system²⁰, and indeed argued strongly in favour of the patent system:

'A patent considered as a recompense for the encrease given to the general stock of wealth by an invention, as a recompense for industry and genius and ingenuity, is proportionate and essentially just.' 21

It is important to note that he did not justify patents as 'natural' property rights but rather on the utilitarian grounds of their efficacy.

Indeed, unlike many later supporters of the patent system, Bentham was quite prepared to admit that legally a patent was a 'grant of a monopoly',²² but argued that its effect was different; for while other monopolies caused some products not to be produced, patents for invention had the opposite result of encouraging the manufacture of products which had been newly invented.²³

The utilitarian basis of Bentham's support for the patent system is also apparent in the later work, The Rationale of Reward, where he argued that state intervention through the patent system should be as cheap and efficient as possible. On this basis he held that the way the existing patent system was administered was unfair to the inventor as it was too expensive and suggested extensive reforms to the administration.²⁴

In spite of his utilitarian approach Bentham did not abandon entirely the idea that a patent might be a form of property. He argued that all men should realise that the patent system encouraged the increase of wealth 'and that in so essential a point, that the security given to property cannot be held to be complete without it'.²⁵ In a lengthy footnote to this statement Bentham explained that all property was defined by the protection of the state granted to it and existed because of it.²⁶ He therefore based his view of 'property' on the utilitarian objectives of the state and not on an inalienable natural right.

(iii) Other classical economists: There is no evidence of classical economists who differed radically from the views on the control of new technology advanced by Bentham. Some, like David Ricardo and the Rev Malthus, gave relatively little attention to the subject. Two classical economists who did write on the control of new technology were J R McCulloch and John Stuart Mill. McCulloch wrote extensively in support of patents as an encouragement to ingenuity. He too was highly critical of the existing patent administration. In a leading article in The Scotsman he wrote :

'If any thing can be called a man's exclusive property, it is surely that which owes its birth entirely to combinations formed in his own mind, and which, but for his ingenuity, would not have existed. Yet in Britain, which owes so much to mechanical improvement, this species of property is feebly protected, and a heavy fine is levied in the shape of fees upon those who make a diligent use of the inventive powers which nature has given them.' ²⁷

In this passage, alone amongst the classical economists, McCulloch

came close to adopting the notion of a patent as a natural property right to which each inventor is entitled as a human being, rather than merely as property conferred by the law for the utilitarian purpose of encouraging the production and utilization of new technology. Yet, in his case, unlike that of critics of the political economists who based a serious argument on the notion of natural rights, the suggestion of an unlimited entitlement is simply a matter of style. In his later discussion of patents he entirely ignored the rhetoric of property of any kind and argued that limited patent 'privileges' should be granted to encourage invention. For further discussion he merely referred his readers to the standard legal texts of the time.²⁸

J S Mill too supported the patent system without introducing any new perspectives.²⁹ In his early writings on patents he did not use any argument connected with property. He largely repeated Bentham's arguments on why patents specifically should be used to reward ingenuity. He adopted the rhetoric of the free market economy by suggesting that the reward depended on the invention proving to have economic value and that, in any event, only the users of the commodity created were paying for the increased price caused by the patent monopoly. He added that the patent law had the further advantage above a system of government rewards that 'it leaves nothing to one's discretion'.³⁰ This conception of the soundness of patent law as an impartial arbiter because it 'automatically' granted patents to inventions which met the formal legal requirements - a notion implicitly common to all the political economists - was, as will be seen, strongly challenged by those with a competing perspective on the 'natural order' of society.

(iv) Content - summary and conclusion: The classical economists' model of the control of new technology preserved through education the production of significant new technology to the middle and upper classes. They did not favour an entirely laissez-faire approach by the state to the production and control of new technology and specifically supported the patent system as a legal framework for the control of 'important' new technology. There was some ambiguity in their writings about whether such a system existed for utilitarian reasons or whether it formed a necessary part of the 'natural order' of society and was based on a 'natural property right'. The concept of property, however, was perceived as sufficiently flexible for it to be used with reference to patents even where the utilitarian aspects of the patent system were stressed.

B. Dissemination

The ideas of the classical economists on the production and control of new technology were widely disseminated, both by themselves and by their popularisers.³¹ The classical economists' speeches and writings were the most important carriers of the full range of their ideas. Although they have been described as an 'intellectual school' or a 'scientific community',³² these terms should not be understood too narrowly, for the classical economists were all actively involved in public life. Thus, for example, both Ricardo and John Stuart Mill were, at different times, members of parliament.³³

Their most significant contributions, however, were made in the numerous articles which they wrote for the various political reviews in which the public debates of the 19th century were conducted and through which the ideals of the emergent middle class were articulated. Particularly important was the Edinburgh Review (established 1802) which had the largest circulation of all political reviews.³⁴

Almost all the important 19th century classical economists were contributors. It had a 'Whig slant to its politics',³⁵ and adopted an almost evangelical approach towards the virtues of political economy. Thus in 1833 it proclaimed:

'Political Economy, we rejoice to think, has apparently nearly waited its appointed time. The mysteries and the abstractions have retired for a while into the inner sanctuary; whilst, amongst the ministers of the outer courts, and throughout even the surrounding multitude, there are symptoms of movement which bespeak the arrival of the missionary era. The moral enthusiasm... will satisfy all who are to be satisfied that the science is not (what it has been childishly termed) a cold-hearted science; and that its gospel is one which must be preached to all classes, more especially to the poor.' 36

Other journals such as the more 'radical' Westminster Review, founded by Bentham in 1824, also served to spread the doctrine of political economy.³⁷ Even the Tory Quarterly Review founded in 1809 to oppose the Edinburgh Review, carried numerous articles on economic matters couched in the terminology of the classical economists.³⁸ Many outsiders, who were not economists themselves, subscribed to some of the important ideological positions held by the classical economists. Some of the leading publicists of their ideas were associates who specialised in subjects which overlapped with the central

concerns of the classical economists. One such associate was Charles Babbage, professor of Mathematics at Cambridge, who belonged to some of the associations, such as the Statistical Society and the Royal Society, through which the classical economists kept in contact with one another.³⁹

Babbage's encyclopaedic study, On the Economy of Machinery and Manufactures, was particularly important in the dissemination of the views of the classical economists on the subject of technological innovation.⁴⁰ It sold 3000 copies in its first two months in 1832 and quickly went through four editions.⁴¹ Babbage was so widely read that later classical economists, notably John Stuart Mill, could simply assume that readers were familiar with the factual data which he had assembled.⁴²

The content of Babbage's economic theory was similar to that of the classical economists. Babbage stated that his object was to explain '[t]he accumulation of skill and science which had been directed to diminish the difficulty of producing manufactured goods'.⁴³ He accepted the basic premise that knowledge was produced by the division of labour. Large sections of his book consist of practical examples of how the division of labour had facilitated specific technological advances. Babbage combined his examples with detailed proposals for changes which would both encourage rapid future technological innovation and reduce social tension.

In the sphere of the protection of units of newly created knowledge, Babbage did not attempt to untangle the complexities of the classical economists' position. He accepted uncritically the necessity of some form of monopolist privilege for inventors.⁴⁴ Nevertheless he criticised the existing institutional arrangements of the patent system as harshly as the classical economists themselves had done. He did not, however, attempt to suggest solutions to the problems presented by the particular imperfections of the patent system. Although he thought that 'scientific knowledge' should be advanced by other means, above and beyond patents, he did not consider which classes of knowledge should be protected by the patent system.

Not all writers who achieved renown by spreading the ideas of the classical economists maintained their careful scholarly methods and style. The most important populariser of the work of the classical economists was probably the novelist, Harriet Martineau. Her technique was to transplant their theories from the semi-academic context into the

speech of characters in her novelettes. Moreover, each novelette served as a fable which illustrated one or more economic truths. Her sales were enormous - at 10,000 copies a month during the 1830's far outstripping the sales of serious economic writers.⁴⁵ The Edinburgh Review testified to her influence:

'We have heard more political economy during the last three months than was ever before heard out of the Political Economy Club. It has flowed smoothly, too, from off the tongues of people so very unlikely to trouble themselves with such investigations, that her own fictitious personages, whether they be retired sergeants, or village sextons, who speak as professors of the science, can now no longer appear to us a romance.' ⁴⁶

In her role as a propagator of the values of the middle class, Miss Martineau laid great stress on the values and virtues of invention and warned against the smashing of machinery.⁴⁷ Although it was not a main theme, she did consider the protection of new inventions in one of her novelettes, A Tale of the Tyne.⁴⁸ Since the central message of this work is the danger of state intervention in the economy, the author had to make it clear that she regarded the patent system as an exception to the general rule that 'all interference of government with the direction and the rewards of industry is a violation of its duty towards its subjects'.⁴⁹ Martineau, following the classical economists, regarded the patent system as a justifiable exception to the general rule. She did not embark upon a sophisticated argument about the nature of patent rights to justify this position. One of her characters, Walter, is asked whether he thinks ill of patents. He replies:

'There is all the difference in the world between a patent to sell what lies before everybody's industry, and a patent to sell what a man has invented by his own ingenuity, and perfected at his own trouble and expense. If a patent could secure to a man the sale of his own article till he has reaped the reward society owes him, I should think very highly of a patent: and it is only because it is so difficult to secure this that I have any doubts about my father's trip to London. But it is a hard thing to manage....' ⁵⁰

In fact Martineau was quite prepared to criticise existing institutions. Later in the novel Walter's father reports from London:

'Of my invention, it is not good to speak at this time and in this manner. Much care has been laid upon my respecting it; it being told me by some who know, that not one patent in a thousand is good for any thing, owing to the difficulty of making it out, and the easiness of invading it. As there is also no security whatever between the time of asking for my patent and its being sealed, you will discern the reason of my not now enlarging on the particulars which you are doubtless craving to know.' 51

The story does not explain whether his patent ultimately was financially successful, but contains a final criticism of the patent system. Walter's father remains pessimistic about his prospects as a result of his (justifiable) 'expectation that his patent would be invaded, and that he should cease to gain by his invention, even if he were not involved in law proceedings to defend it'.⁵² Like Babbage, Martineau did not suggest specific improvements in her criticisms of the patent system.

The wide publicity given by Babbage and Martineau to the basic views of the classical economists on new technology - i.e. that a reformed patent system was a satisfactory means of controlling new technology - must be seen against the dearth of contrary views in the works read primarily by the middle class and in publications (such as those of the Society for the Diffusion of Useful Knowledge⁵³) produced by the middle class for working class consumption. Taken together they indicate that the views of the classical economists were widely adopted by the middle class. They are also evidence that the ideas of the classical economists had succeeded in achieving a measure of hegemonic dominance in this sphere. That this dominance was not total is apparent if the views of the emerging working class on the subject of new technology are considered.

III. The working class alternative

Although the theories of the classical economists were widely disseminated during the first half of the 19th century, they were by no means universally accepted. Indeed they were strongly associated with the entrepreneurial employers by industrial workers who were groping towards an alternative ideology which would justify their own emerging class consciousness. One such 'alternative' framework which dealt specifically with the economic importance of knowledge was provided by Thomas Hodgskin, who, in the 1820's, identified closely with the emergent working class⁵⁴ and deliberately tried to articulate a 'popular' ideology.⁵⁵ Hodgskin and

his collaborator J C Robertson were actively involved in an 'ideological conflict' on behalf of the working class.⁵⁶ In the course of this struggle they attempted to bring their ideal social order into existence. It is submitted that an analysis of Hodgskin's ideas will show what possibilities they presented for providing the working class with a conception of its interests in the control of technology. (A warning must, however, be added. In its early stages the working class ideal was much more fragmented than that of the entrepreneurial middle class. Moreover, Hodgskin's work was not part of an intellectual tradition as closely articulated as classical economy. Accordingly an analysis of Hodgskin's ideas and of their dissemination concentrates on only one strand in the emergence of working class ideology. As shall become apparent, however, it is the strand which is related most directly to attempts by the working class to set up an organizational structure to deal with the creation and control of new technology. For this reason it has been elected to focus on Hodgskin's ideas rather than, for example, the concurrent emergence of Owenite socialism.⁵⁷)

Hodgskin's theories, as developed between 1825 and 1829, shared and even extended the classical economist's conception of the importance of useful knowledge. Indeed in his book Popular Political Economy⁵⁸ the central theme is that knowledge is an important separate category amongst the factors governing the production of wealth.

Hodgskin argued that the classical economists, including Adam Smith, had linked the creation of knowledge too closely to the division of labour in society. Since the conception of improved methods preceded their introduction, knowledge should rather be seen as preceding the division of labour.⁵⁹ Furthermore, the spur to the increase in knowledge was to be found not in the division of labour, which was merely a consequence of the production of knowledge, but in the growth of population.⁶⁰

Notwithstanding his assertion of faith in the inevitability of increasing prosperity engendered by the growth of population, Hodgskin considered the division of labour to be an important, beneficial and even 'natural' consequence of the increase of knowledge. In this context he quoted both Adam Smith and J R McCulloch with approval to show that the division of labour increased opportunities for invention and facilitated the production of goods and thus the creation of wealth.⁶¹ However, Hodgskin warned, this analysis should not be misunderstood:

'It is however indispensable to remark, that all the benefits of this practice naturally centre in the labourer; belong to him, and contribute to his ease or add to his opulence. It increases his skill, by allowing his attention to be uninterruptedly fixed on a single operation; it saves his time, by making no change of tools or of employment necessary; and it facilitates his invention of those machines that are adapted to the single and simple operations, which, in consequence of division of labour, constitute the whole task of each individual....[A]s all the advantages derived from division of labour naturally centre in, and naturally belong to the labourers, if they are deprived of them, and in the progress of society those only are enriched by their improved skill who never labour, - this must arise from unjust appropriation from usurpation and plunder in the party enriched and from consenting submission in the party impoverished.' 62

The basis of this definite assertion of who should benefit 'naturally' from the increased wealth which is the fruit of the division of labour - a conception of what is 'natural' which, as will gradually become apparent, differed markedly from that of the classical economists - lay in Hodgskin's conception, developed in his first book Labour Defended against the Claims of Capital ⁶³ of how wealth was created.

In almost identical terms to Bentham, Hodgskin held that the increase of wealth was, no matter what circumstances might encourage or retard it, directly the result of labour, both physical and mental. But Hodgskin took this argument much further: He consistently held that physical and mental labour were merely mutations of the same activity. Wealth, he continued, was the product of labour - its sole producer - and of nothing else.

Since labour in its various guises formed the sole basis of wealth (capital), Hodgskin argued that a system in which wealth in the form of profits went to those who did not labour, could not be justified. The controllers of capital, he conceded, provide some services (i.e. labour) by means of their superior technical and organizational knowledge; but, instead of only being fairly rewarded for this labour, they claimed huge profits through the manipulation of capital. ⁶⁴

This inequity, he noted, was particularly rife in the way in which inventors were rewarded for their labour. In a passage remarkable for its debunking of the heroes of early technological advance Hodgskin commented :

'No labourer would, I am sure, be disposed to deny [inventors] their reward. But no subject of complaint is more general or more just than that the inventor of any machine does not reap the benefit of it. Of all the immense number of persons who have acquired large fortunes by the modern improvements in steam engines and cotton mills, Mr Watt and Mr Arkwright are the only two, I believe, who have been distinguished for their inventions. They also acquired wealth less as inventors than as capitalists. Mr Watt found a capitalist who appreciated his genius, and Mr Arkwright saved and borrowed the means of profiting by his own inventions. Thousands of capitalists have been enriched by inventions and discoveries of which they were not the authors, and capital, by robbing the inventor of his just reward, is guilty of stifling genius.' 65

Unlike Smith, or even Bentham, Hodgskin saw no reason for society to be structured in such a way as to allow for a 'capitalist' (middle) class free from the rigours of the division of labour. He denied that it represented a 'natural order' or that, as Smith had indicated, a qualitatively different type of knowledge (which ought to be encouraged and rewarded in a different way) was produced by this class. On the contrary, Hodgskin argued that the excessive rewards of capitalists for their limited services could be eliminated by the education of workers in the skills and knowledge held by capitalists and by explaining to them how capital distorted 'the PRINCIPLES on which societies are formed and governed'.⁶⁶

Hodgskin himself was involved in early attempts to educate on these lines. With J C Robertson he was the founding editor of the Mechanics' Magazine which aimed to bring knowledge of technology and economics to the working class. Furthermore in 1823, they were involved in the foundation of the London Mechanics' Institution and in the ensuing struggle to keep it under the control of the workers themselves.⁶⁷

The progress of this struggle has been examined in detail by several historians.⁶⁸ Its significance in the history of the emergence of working class consciousness derives largely from the importance which Hodgskin attributed in his lectures to the provision of an ideological basis for the consciousness of the workers who initially attended them. In the early 1820's a number of similar mechanics' institutes had been created throughout Britain in order to provide technical education for artisans.⁶⁹ Initially these institutions were founded primarily by the artisans who had themselves realised the importance of new technical and organizational skills. Soon, however, the institutes attracted the interest of various prominent middle

class radicals who wished to use them to spread middle class ideals amongst the working class.

From the prospectus which Hodgskin and Robertson had personally drafted for the fledgling London Mechanics' Institution their bias in favour of control by the workers is apparent: 'The education of a free people, like their property, will always be directed most beneficially for them when it is in their own hands'⁷⁰, they wrote. Moreover, there was no intention of limiting the education of the workers to mere practical training designed to improve their skills - training of the kind that Adam Smith had suggested - for they continued :

'The principle object of it [the Mechanics' Institution] will be, to make them [the mechanics] acquainted with those acts of chemistry, mechanical philosophy, and the science of the creation and distribution of wealth, which, at this period of society, it is essential for them to know.' ⁷¹

Shortly after the founding of the London Mechanics' Institution a power struggle ensued in which the ideals of Robertson and Hodgskin were eventually rejected. The London Mechanics' Institution came under effective control of George Birkbeck who was a close friend and ally of Lord Brougham, a leading middle class radical.⁷² The pattern of takeovers by the middle class was repeated throughout Britain. By the early 1830's the first phase of the movement had passed and the institutes were firmly under middle class control.

Robertson resigned as secretary of the London Mechanics' Institution in 1824 but remained editor of the Mechanics' Magazine.⁷³ In this position he was able to maintain contact with artisans in mechanics' institutes throughout Britain. The Mechanics' Magazine became a harsh critic of the London Mechanics' Institution. Attempts were made to influence the composition of its membership and its teaching by means of direct, often vicious attacks on its leaders and their policy.⁷⁴ The correspondence columns of the journal became a forum for artisans who wished to remain in control of the institutes, in order to influence what was taught at their lectures. Thus for example in 1827 a correspondent, a 'mechanic from Rotherhithe', had complained that 'owing to the late distress amongst us many [mechanics] were obliged to discontinue their subscriptions, and since that the Institution has got into the hands of persons of a higher class'.⁷⁵ This had led to the contents of

the lectures becoming too 'literary' and not suited to the interests of the artisans. Artisans were leaving the institution with the result that it was in danger of changing into a literary club. The editor encouraged an extensive correspondence⁷⁶ and warned of the dangers of allowing outsiders to control the knowledge which the working class acquired.⁷⁷

The Mechanics' Magazine did not only concentrate on mechanics' institutions but continued to plead the cause of the working class generally. In particular it warned against the potential influence of the Society of the Diffusion of Useful Knowledge. It argued that if the S D U K gained a monopoly of readers interested in technological matters it would become almost impossible to refute the 'one-sided' ideology which it introduced amongst its 'factual' material.⁷⁸

For a while the mechanics' institutes remained open to Hodgskin. In 1825 he gave a course of lectures entitled 'Popular Political Economy'. The lectures were later published in the Mechanics' Magazine and in book form.⁷⁹

In his last important book The Natural and Artificial Right of Property Contrasted⁸⁰ he developed his earlier themes in such a way as to make his differences with middle class ideals even more explicit. This led to the final severance of his ties with Birkbeck and Brougham.

Hodgskin's central argument was that if it were accepted that labour, both physical and mental, created wealth, then it should also be accepted that property was naturally created by labour and that government was merely established for the protection of the 'antecedently' existing right of property. Since property was created by all men, through all forms of labour in all societies, it was a natural right of man to own property in the same way as he was naturally entitled to the control of his own body which either directly or indirectly produced it. Indeed the ownership of property was understood naturally and 'instinctively' by all men - even by children - prior to the creation of law.⁸¹

Bentham had regarded the law as creating and determining property rights, and had, therefore, Hodgskin argued, entirely misunderstood the basis of their creation. Although it was true that a 'simple man' might 'appeal to the law as a last, but still ruinous, resource to compel those who infringed his right to make him a compensation' this did not determine his conception

of property. The 'ingenuity' of 'literary men', wrote Hodgskin, 'could scarcely persuade the smith, or the carpenter, that his right to own the horse-shoe or the gate, he makes, has been conferred on him by the statutes and the judges'.⁸² Hodgskin summarised his position :

'Without the intervention of any law, contract or agreement between individuals, as to what shall belong to each, Nature produces in each the idea of individuality, which she extends to ownership, by bestowing on each individual, and exclusively, whatever he produces.' ⁸³

In a footnote to this 'truth' Hodgskin argued that even where the division of labour had made production more complex workmen naturally settled the question of their shares in the property produced among themselves. This could be done without 'legal enactment'; Hodgskin, however, did not consider exactly how it would take place. Such a conception left no place for law at all. Hodgskin was very suspicious of the whole legal system. He considered the law to be nothing but 'a great scheme of rules intended to preserve the power of government, secure the wealth of the landowner, the priest and the capitalist, but never to secure his produce to the labourer'.⁸⁴

If the law were not an accurate reflection of natural property rights, could it be reformed, and how indeed could society be changed so that labour could be justly rewarded? These related problems form a central dilemma in Hodgskin's work. He seemed very much inclined to give an almost anarchic answer to the question of law reform and in the foreword to the 1832 edition of his last book wrote that he had 'gradually satisfied himself that all law-making... is arrant humbug'.⁸⁵

The dilemma of those who accepted Hodgskin's analysis of the importance of labour rather than capital for economic growth and who regarded all knowledge as a product of labour, remained: What, in practical terms, could be done about the 'thousands of capitalists' who had 'robbed' inventors of their just reward? Within the mechanics' movement this question was answered in two ways, both of which attempted to take positive action in the light of a critique of the existing laws controlling the utilization of knowledge.

First, it was argued that the exploitation of knowledge should be attempted by the inventors themselves without recourse to the 'privileges' offered by the law through the patent system. For this reason the Mechanics' Magazine editorially supported the founding of a 'Society for the Encouragement

of Inventions'.⁸⁶ In its prospectus the iniquities of the patent law were cited to justify the existence of the society as an alternative means of exploiting knowledge.⁸⁷ The plight of the 'poor' inventor was emotively described:

'Is an inventor humble and poor, who is there to advise and befriend him? He has no access to men of science - no patrons among men of wealth; he cannot himself defray the heavy expense of securing by patent the property of his invention, nor even in many cases, the cost of those preliminary experiments necessary to determine its real value. He seeks among strangers for pecuniary aid, perhaps too for scientific advice, and either falls in the hands of persons who plunder and then forsake him, or, from a natural reluctance to give his entire confidence to a stranger, makes such an imperfect revelation of his plans, that nobody can be induced to patronise.' 88

Given the state of the law and the plight of the inventor the object of the society was to eliminate the role of 'strangers' (i.e. capitalists) by getting mechanics, 'who are likely to contribute most to the society',⁸⁹ to invest small amounts of their own capital so that inventions could be developed and commercially exploited. The proposals to call for capital from mechanics, even if this were to be done 'by instalments, so moderate in amount, and on such long notices that even men of humble means may find it an eligible medium for the investment of savings',⁹⁰ was not the same as calling for the elimination of the role of capital in the exploitation of knowledge. Nevertheless, it was an attempt to allow workers to exploit the knowledge which they themselves had created.

Second, the ideological position of a natural right to property in the products of all labour was used as a basis for a thoroughgoing criticism of the existing laws for the protection of intellectual property. Thus, in an eloquent passage, J C Robertson, replying to a lawyer's defence of the existing patent system, appealed not only, as Bentham had done, against the inefficiency of the patent administration which was hampering the working of the system, but also for the modification of the substantive rules which formed the basis of the system. This he did by contrasting the position under the existing system with the natural rights to which each labourer was justly entitled. In Robertson's own words :

'Mr D [the lawyer] takes his chief stand on royal prerogative! We are disposed to take much higher ground. We hold that there is a right in every man to the fruits of his own ingenuity and labour, which is superior to all prerogative. We know of no solid foundation for prerogative but the better protection of private rights; and to whatever extent it may accidentally subsist beyond that, the sooner it is clipped the better. Nay, so absolute and indefeasible do we consider the property of every man in his own thoughts and inventions, that we must confess we could never discover on what principle of justice it has been determined, that an author or inventor is merely entitled to the fruits of his industry for certain limited periods, while all other men are allowed not only to possess the fruits of theirs during life, but to hand them down to their heirs to the end of time. Is it because the productions of man's immortal mind are as nothing, compared with such scrapings of the dust of the earth, as any kindred though sentient clod may call his own? Or is it rather because the empire of brute force, which regards as nothing whatever it cannot grasp and handle, and place under lock and key, has not yet entirely lost its sway amongst us? May we not hope that a time will yet arrive, when mind shall assume its proper station in the estimation of men, and when to cultivate its powers will be found as certain a source of permanent gain, as either ploughing the earth or digging into its bowels?' 91

In this call for the law to protect the full natural property rights of the inventor in his intellectual labours, there is also a strong stress on the differences between the creators of knowledge and the exploiters of knowledge not obtained by their own labour - between mechanic and manufacturer. Thus in the same passage Robertson continued :

'We must necessarily hold in but little respect, any plan for their relief, which does not at least propose that the greatest protection which has been given any individuals of the class, [men of ideas] shall be extended to the whole.'

He concluded by asking that members of all Mechanics' Institutions throughout the country should support a campaign for the reform of the patent laws.

The fact that rights were denied to some (and also the importance of group solidarity) was perceived by a correspondent who wrote, in the first of a series of letters on patent law published in the Mechanics Magazine, that the only advantage of a patent to an inventor was 'to be able to affix the title of patent to his invention ... whilst the profits of his ingenuity serve to enrich larger capitalists'. The correspondent concluded 'that it is the interest of the poor mechanic only, that must be sacrificed for the public advantage' and asked rhetorically:

'Will the mechanic suffer calmly the curtailment of his rights, that the legal profession may be enriched at his expense? He is one of a body of men rising daily into increased importance, and should his view of the subject accord with mine, let him openly demand that this barrier to the full enjoyment of his rights, as a British subject, be removed. Let him petition the legislature to this effect, let the members of the different mechanics' institutions coalesce, let the voice of the manufacturing population be heard; and before the assembled commons, let the question of such importance to the artizan, who has raised the manufactures of the united kingdom to their present lofty pre-eminence, be discussed.' 92

In summary, it can be submitted that the ideas of Hodgskin and his collaborator J C Robertson formed the basis for a coherent working class ideal which recognized the economic importance of technological knowledge, but combined it with an ideal of social order totally different from that held by the classical economists. As a prescriptive ideology, however, their views contained one central flaw. For, while condemning all forms of enacted law as 'unnatural' and accepting that the increasing division of labour was making economic relationships more complex, it did not expound systematically an alternative 'non-legal' framework within which these increasingly complex relationships could be developed. For this reason the debate on how knowledge should in fact be exploited was conducted in terms of the creation of new or modified organizations, operating within the framework of the existing market economy. As a result, in their practical proposals, members of the working class were confronted by the same problems that the classical economists had faced: namely how could knowledge be exploited without direct intervention by the state?

Nevertheless, their criticisms of the basis of the existing patent system were more thorough than those of the classical economists. For, since they were concerned both with the class bias of the legal system as a whole and with the structure within which knowledge was economically exploited, they were prepared to analyse the principles on which the patent system was based, rather than merely to suggest reforms which would make the existing system more efficient. The result was that their ideas could present a direct challenge to the methods of controlling new technology which were embodied in the existing patent system. Their ideas were qualitatively different from the reforms suggested by Bentham and his followers. Furthermore their ideas provided a potential ideological basis for solidarity and action for those who perceived that, even if Benthamite reforms should succeed, they would

still be exploited by capitalists and less than adequately rewarded for their skills.

The relative success of the projection of the middle class ideal of what the natural social order should be, hampered implementation of a working class view of the way in which new technology ought to be deployed from the start. The loss of control over the mechanics' institutes meant that organizations specifically designed to enable the working class to create and control new technology disappeared. Although the institutes continued to draw working class members throughout the 19th century, the focus of attention became 'harmless' social and cultural activities. The more active members of the working class devoted themselves to other causes - socialism, co-operation and trade unionism.⁹³ None of these however, led specifically to participation in the defence of working class interests in new technology. The result was that although artisans could still articulate their interests in new technology in terms of uniquely working class ideology, they had no basis for collective action in this field. Individual inventors were forced to act through the offices of 'friendly outsiders'. Such outsiders would need to have ties with the existing system through which new technology was controlled. They would therefore be operating from a different economic and social position to that of the artisan-inventor. In the following section the position of such 'friendly outsiders' - the patent experts - is explored.

IV. Patent experts

A. The background of rising professionalism

Patent experts emerged as an occupational group with professional status during the first half of the 19th century. Social historians have commented on the increase in the numbers and influence of self-styled 'professional' men during this period. Thus for example, Perkin found:

'The Industrial Revolution ... which emancipated the entrepreneur and the wage-earner, also emancipated the professional man. With urbanization and the rise of living standards, doctors, lawyers, writers, and even the clergy (including dissenting ministers) found an enlarged demand for their services, which reduced their dependence on the few rich and increased that on the many comfortable clients of their own social standing. The transition enabled them to acquire a greater measure of self-respect, and to demand corresponding respect from society. "Respectability" was the conscious aim of the "gentlemen practitioners"....' 94

For the purpose of acquiring respectability professional organizations were set up or revitalized. This happened both in the more established occupations such as law and medicine, as well as in newly emerging occupations. Among the latter, civil engineers (1818), architects (1837), and mechanical engineers (1847) all established new occupational associations which, like the associations of the older occupations, strove through the apparatus of annual meetings and journals to establish their own respectability and to articulate explicitly the claims of their group to the 'professional ideal'.⁹⁵

The use of the concept 'respectability' as a common core of the ideology of the 'gentlemen practitioners' highlights the fact that spokesmen for these various occupational groups were moving towards defining the services offered by a particular occupation as of central importance to society as a whole. In some respects this ideology overlapped with that of other groups. In particular they tended to share with members of the (entrepreneurial) middle class strongly-held beliefs in the inevitability of progress and the need for general efficiency. However, 'gentlemen practitioners' were set apart from early entrepreneurs by their 'professional ideal' - the ideal that, as members of an occupational group providing a service, they were entitled to define their clients' needs. The ideal went even further: It held that their prestige was not a reflection of that of their patrons or clients but of their autonomy as a group of theoretically equal and free agents delineating their fields of activity (ostensibly) in terms of universally held 'common-sense' values such as 'sanctity of life', 'justice' or 'progress'.

Students of the professions in general have warned that descriptions which professions offered (and still offer) of themselves and of their ideals should not be accepted at face value as true descriptions of how they function, or as explanations of particular needs of professional practice.⁹⁶ Writers such as Johnson and Larson have noted that the professional ideal, as it emerged in the 19th century, should not be regarded as having universal validity. Instead it should be understood as allied to a form of occupational organization which typically emerged in this period of industrializing 'Western' societies.⁹⁷ This change in occupational organization - i.e. professionalization, has been defined by Larson as 'the process by which producers of special services sought to constitute and control a market for their expertise'.⁹⁸

Control of a market by 'professionals' means that they are able to exercise a measure of power in the field in which their skills are marketed. Johnson has suggested the potentiality for the degree of autonomy which a profession requires in order to exercise power rests on the 'esoteric character of the knowledge applied by the specialist'⁹⁹ - i.e. it is based on the extent to which the knowledge which he applies is not understood by the client. The actual power of an occupational group 'to impose on all consumers its own definitions of the content of production and its ends' depends, according to Johnson, on whether its own resources of power are articulated with other, wider bases of social power.¹⁰⁰ In what follows the emergence of the occupational group, patent agents, will be discussed; their aspirations to professional status similar to that of other 19th century professions noted; and their sources of power in an esoteric body of knowledge and in links with other, relatively powerful social groupings considered.

B. The occupation of patent agency

The system of issuing patents - apart from patents for inventions, patents were issued for appointments to service commissions and other posts, and charters to royal companies - was from Tudor times a complex bureaucracy and no doubt from early times agents could be found who would, for a fee, smooth out the bureaucratic obstructions to obtaining a patent (i.e. a royal grant of any kind) for their principals. Some of these agents were also clerks at the Patent Office, appointed for life, and this enabled them to expedite the business of their principals.

If one defines the occupation of a patent agent as the development, delineation and protection of units of technology, for the purpose of commercial exploitation on behalf of a client there is evidence from about 1820 onwards of a small but cross-referring group of 'professional gentlemen' spending a major portion of their working lives employed in these interconnected tasks. Evidence about their activities can be gleaned from various Committees of Inquiry,¹⁰¹ of which the evidence of the 1848 Committee on the Signet Office and the Privy Seal contains the most information since half of the witnesses regarded themselves as patent agents. Of these, four (Robertson, Newton, Carpmael and Poole) claimed to have been patent agents for twenty years or more.¹⁰²

Not surprisingly there was some uncertainty as to the boundaries of the

occupational group. This seems to have gone hand in hand with the loose definition of the occupation itself. Perhaps the most comprehensive definition was given to the 1848 Committee by Wm Carpmael who claimed to have been a patent agent for 27 years:

'A patent agent, strictly so called, would be the party to whom an inventor would come to take out his patent; and if he be well informed upon the subject of manufactures, he will be consulted to know whether the invention is new; and if he be practically informed upon most manufactures, he will be consulted also as to whether it is probable that the proposed invention will be useful; and the last head of his professional duty is that of preparing a specification on which the whole validity of the patent depends.'

He was questioned further:

'Q: Is it not also part of his business to pass patents?

A: Yes, he passes them through the public offices.

Q: Then it appears to be necessary that a patent agent should possess considerable scientific knowledge, and should also be acquainted with the practice of obtaining patents?

A: Yes, and also he ought to be well acquainted with all the decisions of law which govern patents, otherwise he cannot shape his specifications to the requirements of the law.' 103

A clear occupational core had emerged by the 1840's. In 1848 F W Campin could testify: 'Those who we call patent agents amongst ourselves are in number about 10 individuals.'¹⁰⁴ He added that about 20 persons were listed as patent agents in the London Directory. For the earlier part of the century the picture is less clear. Thus until 1829 the only name in the London Directory which is classified as patent agent is that of Thomas Gill who advertised himself as such in his magazine Technical Repository. Nevertheless, Robertson, Newton, Carpmael and Poole all regarded themselves, at least in retrospect, as having acted as patent agents from approximately 1820 onwards. In this they were joined by others, notably John Farey who in his evidence to the 1829 Committee of Inquiry into the Patent System outlined his activities in terms almost identical to those of Carpmael in 1848.¹⁰⁵

By the early 1820's (which, as will become apparent, coincided with the start of the movement to reform the patent system), a group of men were engaged in the activities which later came to form the occupation of patent agency. By 1850 this occupation had come to be regarded as an established 'professional' occupation in the minds of its practitioners. The extent of this 'professional' self image and adoption of the 'professional ideal' is clearly illustrated by an exchange of views between William Spence,

patent agent, and two manufacturer/inventors in 1851. Spence had been accused of insulting the public by 'accusing them of ignorance'. In a letter to Aris's Birmingham Gazette he replied:

'I propose to deal with this point seriously. I do advisedly regard "the public" as ignorant of my particular craft, which men of experience acknowledge to be a difficult one. I do this in common with every man of any trade or profession requiring skill and learning, who has taken the pains to acquire a knowledge of his business so as to enable him to practise it. And how can a man be competent to advise others in difficult cases, unless he have confidence in his own mature judgment as against public opinion?

This remark applies especially in Patent cases, wherein the office of the Patent Agent is to protect his client from the questioning of the validity of his Patent. Every practising Patent Agent knows how often he has to assert the rightful claims of his client against all kinds of opposition; and how could he do this if he did not feel confidence in his own judgment upon such claims? And of course if we believe one thing to be right, we believe the opposite to be wrong. I must, therefore, retain my unwillingness to regard public opinion as of any force to influence me so far as it clashes with my own deliberate convictions on the subject of Patents, upon which my exclusive professional study has been bestowed.' 106

C. Structural roots and ideological influences

Given the broad range of activities that patent agents were called upon to perform in their unifying occupational concern with the control of technology it is not surprising to find that patent agents were rooted in three other occupational fields. They were (i) direct involvement with general technology, (ii) the legal system and (iii) the state bureaucracy. Patent agents advertised their roots in other occupations as contributing to their professional skills. Thus, for example, a pamphlet, issued in 1851, claimed:

'The advantages Messrs W. & J.H. Johnson offer in achieving the above objects, [general patent agency] consists in the combination in their Firm, of a CIVIL ENGINEER and a SOLICITOR; the possession of their own offices in London and Edinburgh, where all English and Scotch Patents are passed and the Specifications enrolled and the Sole Proprietorship of a first class Scientific Periodical, "The Practical Mechanics' Journal"' 107

In order to understand how the various occupations contributed to the ability of patent agents to define and control their own occupational

activity and thus to influence changes in the way in which technology was defined and controlled, it is necessary to analyse how patent agents related to these occupations and combined some of their elements. In each case the importance of the background occupation not only in terms of its direct relationship to the social and economic structure (i.e. its relative power and importance), but also as a resource for the creation of an esoteric body of knowledge must be considered.

(i) General technology: Patent agents were linked through their occupation to the creation and exploitation of technology; for, in the terms in which their occupation has been defined, technology formed the raw material of their activities. Technological knowledge did not per se provide an esoteric knowledge base for the emergent occupational group since patent agents shared their technological knowledge with their clients - at least initially, when their clients were personally the inventors of the units of technology to be polished, defended and eventually patented. To some extent the knowledge base they shared with their clients made them vulnerable to the power of their entrepreneur clients who themselves had ability to make decisions on technological matters without the professional assistance of patent agents. Other connections within the world of general technology, however, reduced their exposure to the clients' definitions of the relationship to technology as a source of esoteric knowledge.

The earliest of these links were those which existed between patent agents and people whom one might term technological experts. The roots of this co-operation had been put down in the 18th century with the use of expert witnesses in patent trials where the academic prestige of scientists was used to impress juries. Although 'practical' inventors strongly objected to this practice, it was continued in the 19th century and the links strengthened by the involvement of academic experts in the work of patent agency other than the collection and presentation of evidence at patent trials. Thus, for example, Moses Poole whose patent agency was largely limited to conducting formalities, testified in 1829 that clients who had required specifications to be drafted on their behalf had been referred to him by Professor Millington, the professor of mechanical engineering at the Royal Institution.¹⁰⁸ Millington, on his own testimony to the 1829 Committee of Inquiry, was even more closely involved in the patent system than Poole had suggested. Not only was he employed to draft specifications

but he also occasionally dealt directly with the bureaucracy in the role of agent in the narrow sense. Furthermore he was employed in the laborious task of attempting to extract information from the unreformed patent bureaucracy in order to be able to advise his clients as to the previous inventions in a specific field.¹⁰⁹

Another academic who played a part in the activities of patent agency was Professor Bennet Woodcroft who later became a pioneering administrator of the reformed patent system. Woodcroft, like Millington, was involved in attempts to glean information from the patent rolls of the unreformed system. In 1851 he gave detailed evidence as to the inherent obstructions in this system, so demonstrating a thorough knowledge of its operation.¹¹⁰

The importance of the incorporation of such academics as a peripheral part of the occupational group was twofold. On the one hand they brought with them technical knowledge of such a calibre that they overshadowed the technical skill of the practical inventor. Thus they lent the authority of their own expertise, which was to some extent esoteric because of their academic status and approach, to the patent agents who consulted them. On the other hand the system itself was legitimised by their close personal involvement in its operation. Even when they were critical of parts of the system, they showed, both by their continued involvement and by their pronouncements, that they considered the patent system to have a useful function.

Apart from their links with individual experts, patent agents were also linked to various organizations involved in the creation and exploitation of new technology. Central amongst these was the Institution of Civil Engineers which was founded in 1818 with the explicit purpose of lending professional status to an emergent occupation.¹¹¹

The identification of patent agents with engineers was both personal and institutional. At a personal level the growing status of the engineer clearly held some attraction for patent agents and initially the occupations were often combined. Thus an individual such as Farey who, in the 1820's, not only performed most of the functions of a patent agent but also supplied the 1829 Committee of Inquiry with comprehensive summaries of the existing legal sources of patent law, still regarded himself as an engineer.¹¹² It was in

his capacity as engineer that he wrote a handbook on the steam engine which contained detailed criticisms of the patent system.¹¹³

At institutional level early patent agents were also closely involved in engineering. Several patent agents were members of the Institution which provided them with a forum for their views. The extent of the involvement of patent agents in the activities of the Institution of Civil Engineers is best illustrated by a meeting in 1851 at which A V Newton (son, partner and eventual successor of the early patent agent William Newton), a full-time patent agent and member of the Institution, gave a paper under the title 'An enquiry into the nature of Patent Law Protection with a view to the better appreciation and security of the Inventors' Rights'.¹¹⁴ Discussion of this paper which was basically a cautious justification of the system, combined with suggestions for limited improvements, extended over three successive meetings and was published in extenso in the Minutes of the Institution. Amongst the participants in the debates were engineers and manufacturers as well as specialist patent agents and lawyers. Although there was some criticism of the paper on specific issues the debate was conducted entirely within the basic parameters laid down by Newton and his fellow 'specialists'.

Institutional links with formal associations operating in the field of general technology were important to the emerging occupation of patent agents in two ways. First, they associated individual patent agents with the most prestigious associations actively involved in encouraging scientific and technological innovations of all kinds and propagating the ideal of progress through such innovation. This enabled these patent agents to claim expertise in matters relating to technology and to use the ideal of progress as part of the justification of their primary occupational activity, even though (as in the case of the Society of Arts of which the early patent agent T Gill was a member) the association might officially disapprove of the way their occupation was conducted or even of the existence of the occupational activity itself. Second, and more specifically, the almost symbiotic relationship with the engineering occupation enabled the patent agents to absorb the professional ideal of a specific occupational group and also to deploy some of its power, prestige and esoteric knowledge of the implementation of technology in their

relationships with their entrepreneur clients. Thus they could, to some extent, minimize the power of their clients even in matters relating directly to technological problems.

The power and influence of patent agents in the field of general technology were further increased by their active involvement in the propagation of the actual, relatively simple technology (particularly mechanical techniques) on which 19th century industry was based. This was done by editing, or at least contributing to, journals which published information about new inventions. Most important of these journals were the Repertory of Arts, (Gill's) Technical Repository, the London Journal of Arts and the Mechanics' Magazine.¹¹⁵ By the mid-1820's the editors of all these magazines were involved in patent agency and this continued throughout the rest of the first half of the century and beyond. Later examples of such journals edited by patent agents were the Practical Mechanic's Journal (1848-1852?) and the Patent Journal and Inventors' Magazine (1846-1851).¹¹⁶ Both were relatively short-lived and neither appears to have been very influential.

There is no evidence to suggest that any of these journals were produced under, or even influenced by, the patronage of the clients of the patent agents. All the journals were edited according to roughly the same formula. The bulk of the 'news' which they carried was extracted from the patent rolls held in the various offices of the unreformed patent bureaucracy, where it was for all practical purposes inaccessible to outsiders. This news was supplemented by information on foreign inventions and occasionally by original articles. However, the journals did not, and probably could not, offer all the available information on a particular subject. Instead the various editors advertised their own larger pools of information which, at a small fee, would be available to their readers - readers being regarded as potential clients. Coupled with this invitation were often direct advertisements suggesting to the reader that the editor and his associates would be the ideal advisers on all problems related to the exploitation of technology.¹¹⁷

The field of expertise of the editor was indicated by the way in which technological news was covered. There was a marked practical bias and new scientific principles were projected in terms of their usefulness to manufacturing industry. Moreover, since the journals did not contain only technical items there was scope for the demonstration of an explicit editorial

commitment to ideals of progress. Thus, for example, the editor of the Mechanics' Magazine refused to publish a letter on the 'Effects of Machinery' although he admitted it to have been 'cleverly written':

'The invention of man must have entire scope, or it may as well have none at all. To establish by Act of Parliament a limit beyond which invention shall not pass (which is what Mr R. recommends) would be to ordain a general march back to barbarism. We feel convinced that Mr R's proposition would lead to no good result, and must therefore decline its insertion.'¹¹⁸

In addition the potential influence of the editor was increased by the fact that some journals, particularly the London Journal of Arts and the Mechanics' Magazine, devoted a great deal of space to letters, articles and editorial comment which analysed the working of the patent system and suggested detailed changes to it and also to other bodies of law concerned with the control of technology.¹¹⁹

The editorship of the various journals therefore enabled patent agents to set themselves up as experts who had esoteric knowledge of both practical technological problems and of the 'true' requirements for technological progress. It was in their capacity as editors of journals that patent agents were recognised by the general legal profession as having a unique area of expertise. Thus, for example, in his important early text book on patent law, the barrister, Richard Godson, referred his readers to the editors of the Repertory of Arts (new series) and Gill's Technical Repository for advice on technological matters.¹²⁰ It is this connection which must next be considered.

(ii) The legal system : Patent agents specialised in the law relating to new technology and did not, as far as can be ascertained, act as general legal practitioners. On the other hand, it appears from the evidence before the 1829 and 1848 Committees of Inquiry¹²¹ that solicitors occasionally acted as patent agents in the narrow sense and applied to the various offices through which patents had to be passed on behalf of their clients. The roots of such occasional 'professional' involvement by lawyers in the control of technology go back further than those of engineers, for, in the 18th century, lawyers had taken part in the struggle surrounding the patent system. Yet their expertise had been their general legal skill and not their exclusive knowledge of a detailed and specific body of law concerned with the control of technology.

The 19th century saw lawyers participating more actively in the increasingly lucrative occupation of the control of technology. Some began to specialise in this field although remaining formally within the organizational structure of the legal profession. Crucial to this process were the activities of a small group of men who, although regarding themselves primarily as barristers, shared several facets of the activities of patent agents and who became part of the network of experts to whom entrepreneur clients were referred. Particularly in the period before the occupation of patent agency had become exclusively defined by a formal 'professional' structure (i.e. the period which included the first half of the 19th century and beyond, until the foundation of the Institute of Patent Agents in 1882) they can, in terms of their primary occupational activities, be regarded as belonging to the same occupational group.

There is indeed clear evidence that the occupational basis of patent agency was shared both in fact and in ideal. Thus for example, Benjamin Rotch, barrister and member of parliament, was employed, from the 1820's onwards, as a consultant on the drafting of highly technical specifications.¹²² At the same time he was directly involved in the movement to reform, or rather to modify, the patent system. His roots in general technology are apparent from the fact that he was a founder-member of the mechanical engineering section of the British Association.¹²³

Similarly, the barrister and authority on patent law from the 1840's onwards, Thomas Webster, who took a leading part in the modification and consolidation of the patent system, had a firm grounding in general technology. From 1837 to 1841 he had been secretary of the Institution of Civil Engineers and was also a member of the important 'umbrella' organizations interested in encouraging progress through technological innovation - such as the Royal Society, the Society of Arts and the British Association.¹²⁴

Although these personal links between the legal profession and patent agency must not be disregarded, the most important connection between them was provided by the joint construction of a body of knowledge which encapsulated the activity of definition and control of technology in legal form and which created a shared universe of discourse between lawyers and patent agents.

The initial steps towards the creation of this body of knowledge consisted merely of the collection and notation of past decisions of the courts and the description of legal procedures followed previously in matters connected to the law relating to patents for invention. These collections were not all made by members of the legal profession. The compilers of the first four collections, Davies (1816), Farey (1829), Carpmael (1843) and Webster (1844) described their occupations as Clerk of the Patent Rolls (i.e. civil servant), engineer, patent agent and barrister respectively.¹²⁵ Nevertheless, they all followed approximately the same procedure.

The collection of case reports had direct consequences for the status of patent law, for, by providing accessible precedent, it created a resource within which differences of opinion could be defined and settled. Moreover, the doctrine of precedent meant that changes in the law effected in the 18th century were now given the added sanction of being firmly incorporated into the body of law as a whole. These changes were thus reinforced by a historical line of decisions which the ideology surrounding legal precedent in general justified as being an 'inevitable' unfolding of jurisprudential logic.

Further contributions to the distillation of legal principles as the basis for an esoteric body of knowledge was made by the production of legal texts on the subject of patent law by both patent agents and lawyers. Their efforts were soon given public recognition: In 1846 the president of the Institution of Civil Engineers spoke thankfully of the conditions which had

'given rise to an important class of professional gentlemen styled Patent Agents, who devote themselves exclusively to the study of inventions and the peculiar laws relating to them, in order to secure to inventors their just rights and prevent them from being infringed upon by others. Amongst these gentlemen we may mention the names of Robertson, Newton, and others, to whom inventors are much indebted for the skill and attention with which their interests are guarded, as also to Godson, Holroyd, Hindmarch, Rotch, Webster, Farey, Carpmael and others, who have devoted themselves to the study of the Patent Laws, and have written ably upon them.' ¹²⁶

All the people mentioned in this passage wrote extensively on the subject of patents. Thus Godson (1823), Holroyd (1830), Carpmael (1832), Webster (1841),

and Hindmarch (1846) were the authors of the most important early textbooks on the patent system.¹²⁷ If one adds to this list the earliest works dealing exclusively with the patent system, those of Collier (1803) and Hinds (1808), the picture of a large body of newly systematized knowledge is confirmed.¹²⁸

Legal writings of patent experts not only built up an esoteric body of knowledge, they also provided ideological justifications for the patent system. Thus they stressed the historical continuity of the system arguing that the patent system was the product of the Statute of Monopolies and that it ought to be accepted as a common-sense part of the British tradition of liberty and ought not to be regarded as unjustified intervention by the state. The early textbooks of Collier and Godson both propounded this argument at some length and they were followed by later authors.¹²⁹

In legal texts the concept of a patent as a form of property was used, as it had been by the classical economists, as a justification for the patent system as a whole. For example, in the opening sentence of his Practical Treatise on the Law of Patents for Inventions, Godson wrote:

'Each individual, by the natural rights of mankind, is entitled to exercise an uncontrouled power over every kind of property of which he is legally in possession; whether obtained by purchase, or produced by labour.' 130

Later writers such as Carpmael, Webster and Hindmarch, whose important textbooks appeared in the 1840's, used the same justifications as had Collier and Godson but integrated their arguments more carefully so that the body of knowledge available to patent experts became more coherent. In particular, they were more careful in their use of the concept, 'property', claiming, at least where patents were concerned, to define property in the utilitarian manner, i.e. to be what the legal system regards as such rather than an abstract right to which the public would always be entitled. Hindmarch's textbook offers a good illustration of how this subtle distinction was made without, to the eye of the casual reader, abandoning the rhetoric of property. Hindmarch introduced his book in the following way:

'The right of property in moveable chattels was recognised in the earliest periods, and is founded on the law of nature. But it was very different with respect to the sole right to use an invention, which had its origin in an advanced state of society, and not until after improvements in the arts had made considerable progress.' 131

Thus Hindmarch too seemed to place the patent system within the spheres of natural rights and historical progress. Nevertheless he went on to dismiss the 'natural rights' argument that 'according to the principles of universal equity, an inventor has an exclusive property in his invention'.¹³² This 'property', he suggested, disappeared as soon as the inventor made his invention known. After this point the rights of the inventor depended on the consent of the community. However, the consent of the community was a fiction, for it was simply assumed that the community had consented to the granting of a privilege by the state for everything that was new and useful to the public - the inventor having no rights to what was not both new and useful.¹³³ Hindmarch concluded:

'Accordingly inventors are never entitled as of right to letters patent, granting them the sole use of their inventions, but they must obtain them from the Crown by petition, and as a matter of grace and favour, and letters patent always express that the grant is so made.' 134

The more sophisticated approach to concepts of right and property did not, in practice, mean that the validity of patent grants was determined by the consent of the community or by the grace and favour of the monarch. Hindmarch and his contemporaries regarded the decisions as to what was new and useful as quasi-legal questions to be determined by the patent experts.

This was probably the most important development in knowledge surrounding the patent system in the first half of the 19th century. The earlier textbooks such as those of Collier and Hands had been divided into separate sections containing justifications for the system, lengthy quotations from previous cases and descriptions of the bureaucracy. In the later textbooks, Godson's to some extent, and those of Carpmael and Hindmarch in particular, justifications and case material became integrated into a unified body of knowledge. Whether something was new, useful and within the scope of the patent system became dependent on the definitions of the legal categories of utility, novelty and subject matter. These categories were developed by the analysis and organization of case material until they had lost their common-sense meaning. They became the cornerstones of the esoteric body of knowledge held by patent experts.

The development of patent law into a virtual legal sub-discipline had the important consequence that patent agents came to regard their esoteric

body of knowledge as a source of potential solutions to all possible conflicts over the control of technology. The 18th century distrust of the adequacy of patent law lingered on into the 1820's,¹³⁵ but was eventually dispelled, at least in the eyes of patent agents, by its increasing sophistication. Thus in 1847 the patent agent, William Spence, could write in his work Patentable Invention and Scientific Evidence:

'I do undoubtedly entertain a strong conviction of the paramount importance of treating patent reform as a question relating to change of practice rather than of essential law, believing the settled points to involve a body of legal doctrine amply sufficient for adaptation by intelligent minds to the cases likely to arise.' 136

Finally, the links which this body of knowledge provided with the legal structure should be considered from the point of view of its potential of increased influence for patent agents. Not only would patent agents absorb the professional ideal from the legal profession but they would gain prestige by being involved in an occupational activity similar to that of lawyers. Furthermore they too would be supported by the ideological justifications applicable to the legal system as a whole. Turk has noted the importance of this process in general terms.

'Those definitions of the real, the true, and the worthy given legal expression or approval are thereby given the support of what is not only the most prestigious of cultural structures, but also that structure most directly supported by the apparatus of political control.' 137

The uses to which the ideological resources offered by the legal elements in the knowledge base of patent agents were put, will be outlined in subsequent chapters. Before that the structure within which patent agents could use their legal knowledge and their relationship to the bureaucracy which, in their occupational activities, directly linked them to the 'apparatus of political control' must be considered.

(iii) The unreformed bureaucracy: Patent agency originally referred to the piloting of patents through the numerous offices of state necessary for obtaining official sanction for the sole use of units of technology which the patents purported to describe. Throughout the first half of the 19th century these offices continued in largely the same form

as in the 18th century and therefore retained their importance. Dealing with bureaucracy remained one facet of the 'new' patent agency.

The nature of the relationship of patent agents to the bureaucracy is of interest because the unreformed 'early modern' bureaucracy was, to some extent, a source of power. The labyrinth of its offices mystified outsiders and the ability to extract patent grants, and even technical information, from it could be regarded as a form of esoteric knowledge. This might have meant that the bureaucracy had the power to mediate in the relationship between the patent agents and their clients in such a way that it would be the bureaucracy rather than the patent agents which held the real power of providing access to the sanctions which would enable the clients of the patent agents to control and exploit 'their' units of technology.¹³⁸ Patent agents would then not have been able to fulfil the professional ideal of themselves defining their relationship to their clients. In fact such a juxtaposition was prevented by two factors: first, by the intimate personal links between agents and the unreformed bureaucracy; and second, by the limitations on the bureaucratic power imposed by the legal-traditional nature of the bureaucracy.

Links of the former kind are typified by the career of Moses Poole, perhaps the most important transitional figure between the two types of agency. In 1817 Poole was appointed, in succession to his father, James Poole, to the office of Clerk of Inventions at the Patent Office. His appointment was made 'for life, or while he executed the duties of his office properly'.¹³⁹ In fact Poole held the office which entailed primarily the mechanical copying of patents for a few hours a day (and for which he was entitled to hire an assistant) until the Patent Law Amendment Act was passed in 1852.¹⁴⁰

This type of office was not remarkable since many offices in the early 19th century government were filled by similar officials performing similar tasks after having been appointed for life, by patronage and often on an hereditary basis.¹⁴¹ Nor was it remarkable that Poole provided other services than those strictly laid down in his capacity as a government official; for the estimates of the costs of patents show that it was openly accepted that 'gratuities' had to be paid to various officials and their minions in order to expedite the process.¹⁴² Where Poole did differ from other holders of sinecures was in the scope of his involvement in

unofficial activities. Like his father he acted as an agent passing patents through the various other offices for the standard fee of £10:10s. (plus £1:1s. for stationery and expenses).¹⁴³ In his evidence to the 1829 Committee he described his role as limited entirely to this 'routine' activity and denied that his position in the bureaucracy was of any assistance.¹⁴⁴ However, on closer examination it is apparent that he did in fact 'look over' specifications on behalf of his clients.¹⁴⁵ Furthermore it is clear from his casebook that not only did he check specifications but also acted as a 'clearing-house' for clients who had problems with regard to the control of technology in general. Thus he arranged for advice on legal problems to be obtained from barristers. Clients were referred to 'experts' who could draft specifications. He also passed foreign patents in his own name while acting as agent.

Poole's practice flourished. Farey testified in 1829 that Poole passed more patents than anyone else. Furthermore, Farey continued, 'he [Poole] obtains patents more expeditiously than some others, and I believe at something less expense'.¹⁴⁶ By 1837 Poole himself estimated that he was concerned as agent, in the narrow sense, for between one-half and two-thirds of the whole of the patents for inventions which were issued annually.¹⁴⁷ Assuming that he was still being paid the standard fee of £10:10s. per patent to which he had testified in 1829, his income in 1836 from this source alone would have been at least £1554, or more than 670 per cent of his official salary.¹⁴⁸ In 1837 Poole went into partnership with Wm Carpmael, 'engineer and patent agent'.¹⁴⁹ This meant that the necessity for 'outside' consultants was minimised and that the partners could perform all the activities associated with modern patent agency.

The secure position held by Poole (and others appointed permanently in the unreformed bureaucracy) is illustrated by an incident which took place in 1839. In that year an attempt was made by a newly appointed Clerk of Patents to have Poole removed from his sinecure. Poole appealed to the Attorney-General who had originally appointed him. They wrote on his behalf to the then Attorney-General, Sir Frederick Pollock. Eventually Pollock confirmed Poole's appointment. He stressed that, although the number of patents for invention had increased to such an extent that there was 'an apparent objection' to Poole's acting as patent agent, he was nevertheless 'desirous of treating with the utmost deference every

arrangement made by my predecessors in Office and of interfering as little as possible with the benefits enjoyed in the office in consequence of any appointment of former Law Officers....'¹⁵⁰

It is important to bear in mind that the process to which a patent specification was subjected before a patent was granted, was not a naked exercise in lucrative bureaucratic hairsplitting - although such hairsplitting abounded. The bureaucrats provided a legal rationale for their activities: In Weberian terms, they justified their occupational activities on the basis of their intrinsic legal formality. Thus the bureaucrat witnesses to the 1848 Committee of Inquiry into the Offices of the Signet and Privy Seal attempted to justify the entire sequence of their formal activities in terms of legal/constitutional forms which had to be preserved.¹⁵¹ The unreformed bureaucracy had, in general terms, been defended by the legal profession. Thus in 1830 the Law Magazine had described an attack on the various sinecures of the patent bureaucracy as 'atrocious and Benthamic' and had considered it to be a danger to the constitution.¹⁵²

Apart from these general links which resulted from the legal nature of the formalities of the process of granting patents, the structure of the bureaucracy allowed patent agents to be involved in quasi-judicial hearings which enabled them to protect the interests of their clients in a particular class of technology over a period of time. By means of what was known as the caveat system a notice, called a caveat, could be entered at the office of the Attorney-General and the Solicitor-General. The caveat asked that before they recommended that a patent be granted for a particular type or class of invention the petitioner be warned of its existence so that he could decide whether to oppose the grant. Caveats were usually entered in the names of patent agents so as to keep secret the identities of their clients whose inventions in the same field might not yet have been patented.¹⁵³ (In practice, if no caveat were entered, the Attorney-General automatically endorsed the application for the patent.)

In the event of the caveat procedure being followed the role of the patent agent was crucial since the Attorney-General decided the case without the assistance of scientifically trained assessors. Moreover, he did not consider the validity of the patent as a whole but merely heard the evidence of the would-be patentee and contrasted this with the evidence

presented by the opposing party, through his patent agent, as to the existence of an equivalent invention under the same title.

The caveat system was important because it involved patent agents directly in the only significant decision made by the bureaucracy - namely the decision whether to grant a patent or not. The bureaucracy was in fact only stimulated to make this decision by the intervention of the holder of a caveat. Since this was usually a patent agent it meant that a patent agent had to watch over the technology of his client over an extended period, rather than only being involved during the process of granting a patent or defending it in the courts.

Decisions were made in the caveat system on what F W Campin, an early patent agent, called 'mixed questions of law and science'.¹⁵⁴ It meant that the bureaucracy provided a framework within which the patent agents could deploy their esoteric body of knowledge, which combined precisely these two elements, for the purpose of gaining the powerful sanctions of the state on behalf of their clients. It can be concluded that the esoteric knowledge of the patent agents rather than the activities of bureaucrats decided whether the technology of their clients would be protected by the sanctions of the state. At the same time it must be noted that by the middle of the 19th century patent agents had built up a relationship with the bureaucracy through which they had direct personal contact and influence with people such as the Attorney and Solicitor-General who had the power to shape directly legislation relating to the control of new technology.

V. Conclusion

The first half of the 19th century saw the emergence of social classes in British society. Included in the consciousness of these classes were notions about the relationship of the state to the control of new technology. In particular the growth of a relatively influential middle class with its own distinctive 'common sense' led to a departure from what Dicey called 'Old Toryism or Legislative Quiescence'.¹⁵⁵ However, at least in the sphere of control of new technology, the change in 'public opinion' was not towards 'individualism' as Dicey had suggested. Indeed, this chapter has shown that the ideologues of the emergent middle class (the classical economists) were prepared to allow for a measure of (reformed) state intervention. It was the working class alternative that viewed intervention by the state in the control of new technology with the greatest hostility.

This chapter has also indicated that the potential ability to shape the future development of the way in which technology was controlled was not equally distributed. In particular, the analysis of the emergence of the occupation of patent agency has demonstrated how various structural roots and ideological influences combined to give the occupation the strategic social position and the occupational unity which would enable it to influence the way in which its occupational role was to be fulfilled. Patent agents combined the general ideals of professionalism and respectability with specific ideals of expertise held by the various occupational groups to which patent agency was closely linked. This combination gives some indication of the goals to which patent agents would aspire and of the means - a unified body of esoteric knowledge and links with other professions - available to them in the first half of the 19th century. In the next chapter a chronological description will be given of how patent agents deployed the means at their disposal to shape, within the constraints of the changing social structure, the manner in which new technology was controlled in such a way that their occupation was safeguarded and the scope for the exercise of their 'professional' skills increased.

CHAPTER 5 - THE REFORM OF THE PATENT SYSTEM (1820-1852)

I. First stirrings.

The first 19th century stirrings of a movement to reform the patent system coincided almost exactly with the period, at the beginning of the 1820's, which the social historian, H Perkin, has denoted as the time of the 'birth of class' in English society - i.e. the period in which, in his words, 'the vertical antagonisms and horizontal solidarities of class come for the first time, clearly, unmistakably, and irrevocably, to supplant the vertical connections and horizontal rivalries of dependency and interest'.¹ This is not to suggest that the early requests to parliament for the reform of the patent system were the product of the desire to extend the hegemonic dominance of the emerging classes by destroying the influence of the old order in the administration of patents. A more immediate reason was that the growing number of patentees² were dissatisfied with the protection offered by their patents.

The initial challenge, in the form of petitions to parliament, came directly from the users of the patent system. They did not ask for cheap patents for they did not wish to increase the number of people who owned patents. Instead they asked that the rights which they already had, or were about to acquire, should be more effectively defended. The various improvements suggested were aimed directly at securing their investments rather than at providing solutions congruent with a theoretical conception of the importance of technological innovation in the ideology of the emergent middle class. This instrumental orientation is apparent from the content of their specific proposals.³

One of the proposals was that, as Arkwright and others had unsuccessfully suggested in the 18th century, specifications of the content of the patent ought to be kept secret. Petitioners in 1820 complained that specifications were being copied by their competitors, some of whom were foreigners. Leave was sought to bring a Bill 'to prevent the too great facility of procuring copies of the specifications enrolled by the grantees of letters patents'. The Bill proved abortive.⁴ It also provided the occasion for an important statement of principle. Joseph Hume, the middle class radical, attacked the proposal on the grounds that:

'the motion was contrary to all sound and liberal views of commercial policy, and that instead of concealing the specifications of patents every possible facility ought to be given to render them public. The legislature ought never to lend itself to any measure which was calculated to prevent the diffusion of knowledge.' 5

Here was a clear statement of the importance of technological innovation which was couched in far broader terms than the protection of individual patentees. Nevertheless, the issue was not discussed at a general level and the standards for the specification remained obscure. Such obscurity still enabled substantive patent law to be all things to all men.

In 1826 a similar request for secrecy was made in a petition presented by Lord Palmerston.⁶ By this time more than forty years had elapsed since Arkwright's patent had been defeated on grounds of the insufficiency of its specification. The judgment in the case had been reprinted in the early legal textbooks. Nevertheless the law was so little known by 'outsiders' that the Attorney-General, in the course of a general apology for the patent system, could still claim that

'in patents there was a protection for several years, during which they [patentees] were not called upon to give such a particular description of their invention as would allow other persons to avail themselves of it for the purposes of imitation'. 7

Other improvements which were suggested did not elicit such sophistry. There was no opposition from the government to a proposal to change the standard clause in the patent grant which prohibited the joining of more than four partners in the exploitation of a patent.⁸ This was an issue which directly affected the use of patents as a basis for investment but did not influence the administrative process. No legislative changes at all were made as a direct result of the bills and petitions presented between 1820 and 1826.

The importance of these early attempts to modify the patent system lies not in the content of the almost apologetic suggestions for improvements in the system but in the contention that the system of traditional privileges might not be fulfilling its function as it should. The result of these limited, instrumentally motivated steps taken by the petitioners was that the whole problem of the control of technology by the patent system came

to be reassessed. This meant that the idea that the unreformed 'traditional' administration had an essential part to play, came to be challenged. Men began to realise that the way in which technology was controlled might not be in their interests. Once this question had been raised the way was opened for men to reappraise their interests in the control of new technology in the light of the ideological frameworks within which they operated. The unchallenged power of the old aristocracy and the administration which was the product of its patronage had been questioned.

II. The redefinition of protest

Until the mid 1820's the old order of the unreformed administration and their patrons in government had been powerful enough to ignore petitioners and the limited public protest. If not ignored, protesters had been fobbed off with platitudes or parliamentary time had simply not been made available for detailed consideration of the problem. The role of the patent system had not yet been raised to the status of a mass issue.

From 1826 onwards the press tried to interest the public in the issue of patent reform. Although the general press⁹ commented on the parliamentary debates of that year, it was from the specialised journals dealing with technology that the sharpest reactions were forthcoming.

At about this time independent patent agents began to emerge as a separate occupational group capable, as has been seen in the previous chapter, of exerting power in their determination of the development of the patent system. Patent agents did not, however, simply work out the logical implications of a particular ideological framework for the future of the patent system. Three intervening processes prevented this. First, patent agents as an emerging occupational group had, for reasons which have been outlined, their own interests in structuring their occupation according to the ideals of professionalism. In the second place the ideological frameworks adopted, would differ according to what the ideals of their clients were and to how closely the patent agents identified with these ideals. Third, the scope of the patent agents' action was limited by the residual power of the old elite. Even though challenged the common-sense ideology which justified the old social order did not immediately lose its hegemonic dominance (legitimacy) at all levels of society. Members of the old elite still

protected and defended the unreformed patent system. The existing patent system provided the milieu in which the patent agents worked. Some such system was necessary to enable patent agents to operate at all. These circumstances all conspired to inhibit rejection of the old system and to force patent agents to compromise in their proposals for change.

Three examples will illustrate how patent agents in interaction with those who made up their occupational world, articulated their own ideas on how the patent system should be reformed.

A. Perhaps the clearest illustration of how the ideology of a particular class could be interpreted in order to obtain reforms congruent with the objectives of the patent agents as an emerging profession can be found in the way that J C Robertson, editor of the Mechanics' Magazine, dealt with attempts by his readers to articulate a specifically working class view on the control of technology. In the section on the working class ideology, it was noted how Robertson had become a spokesman for the emergent working class. At the same time as he was editing the Mechanics' Magazine and defending the rights of the working class in the London Mechanics' Institution he had also set up practice as a patent agent and solicited business through his journal.¹⁰

The insight which Robertson in his capacity as patent agent gained into the forces controlling and protecting the existing patent system was first shown in the timing of the Mechanics' Magazine's campaign to reform the system. Given its expressed concern for the right of the working class to control technology one might have expected Mechanics' Magazine to pinpoint the shortcomings of the patent system in its early issues. Yet, only in 1827, four years after its foundation and some time after the issue had been raised in parliament, did it publish the first of the large number of letters which it had received on the subject of patent rights from its artisan readers. The delay was explained by the editor. He had for some time, 'from a private knowledge of circumstances' known of moves towards reform and had accordingly deliberately held back in his efforts to exert pressure.¹¹ Only when private influence had failed was he prepared to turn the problem into a public issue definable in terms of class interests.

Robertson then began a vigorous campaign to reform the patent system by publishing in successive editions a series of letters on patent rights. His

choice of letters reflected both his identification with the working class and his limited goals for reform. The former element is illustrated by the letter which he selected to open the campaign. It cast the debate in terms of the artisan seeking to 'reap the fruits of his labours' but being exploited by the 'larger capitalists'.¹² Robertson's editorial contributions also spoke in general terms of substantive natural rights in the product of labour.¹³

The limits which Robertson placed on the debate only became apparent as more letters were published. He allowed sharp attacks on the administration to pass unremarked, yet he was quick to defend the rationale of the substantive law.¹⁴ He argued that the legality of a patent quite correctly depended on the specification being clear and public 'since material concealment vitiates the grant,' and was not prepared to consider attacks on the patent system which proceeded from the argument that specifications ought to be concealed.¹⁵ Robertson made his acceptance of patents as defined and protected by the existing positive law quite clear :

'The fault which intelligent men find with our Patent Laws, is, not that they do not furnish protection enough... but that it costs such an enormous sum to procure that protection; and to this point alone we would have the petitioners against these laws address themselves... in the first instance at least.' 16

Even at this early date (1827) Robertson was prepared to accept the essential validity of the esoteric knowledge base of his nascent profession. At the core of this esoteric knowledge was the ability to define units of technology. Since definition was accomplished by a legally defined description, i.e. the specification, and since the specification was protected by law, legal knowledge was a key part of Robertson's professional expertise. He remained committed to a specifically legal element in the patent system. The result was that the rhetoric of working class ideology served only to add gloss to the essentially limited goal of providing a cheaper and more efficient way of using the legal system to create exploitable units of technology.

Robertson's approach to the question of patent reform did not mean that he personally rejected the cause of the working class. Instead it indicates that on the question of patent rights the ideological framework within which he worked as a professional restricted his vision and shaped his tactics for change. As in other fields, he distrusted the proselytizing of middle class

reformers such as Brougham and Birkbeck on the subject of patent rights. For this reason he was less than enthusiastic about a meeting held under Birkbeck's chairmanship in June 1827 to discuss the 'Emancipation of Mechanical Genius'.¹⁷ When, as he predicted, it failed to produce any moves towards reform of the patent system he produced his own petition, which he asked artisans everywhere to support.¹⁸ Although clad in the rhetoric of natural rights this petition basically limited its claims to removal of spurious offices and fees so that the patentee could be placed in the same position as the holder of copyright. It contained no substantive claim which could not also have been justified by the arguments of a middle class reformer bent on efficient government. Robertson's achievement was to equate limited patent reform with the working class ideal. This meant that the middle class reformers and the working class shared the same objective. Nevertheless the difference in rhetoric meant that failure of the middle class to achieve the reformist goals could still be interpreted as a denial of working class rights.

B. Other early patent agents merely adopted and adapted the ideological positions of their more middle class readers and clients. An illustration of this approach can be found in the support given by the patent agent editor of the London Journal of Arts, Wm Newton, to a series of articles contributed from 1828 onwards to the journal by a correspondent who signed himself 'Vindicator'.

'Vindicator' argued, along similar lines to Hodgskin, that an inventor had an inalienable natural property right in the product of his mental labour. Unlike Hodgskin, however, he did not relate his claims to a doctrine of substantive natural law which would support the claims of the working class to all products of labour. Instead he harked back to the 18th century radical tradition (of which Kenrick had been part)¹⁹ and specifically to the idea of a social contract that was the formal basis of the inalienable property rights of individuals.

In 1829, in reply to timid suggestions in parliament that patent reform should not make patents too cheap or too easy to obtain, 'Vindicator' argued:

'[T]he position maintained in this doctrine, of the inexpediency of facilitating the taking out of Patents for inventions, directly involves the principle of non-protection to the actual property of the subject, and the exclusion, so far as the principle operates, of every man from the fundamental compact of society. Absolute and entire protection to property, without reference to the plus et minus of its amount, forms one of the principal claims which every member of a community has upon it, or rather upon those who are pleased to undertake its direction and state. This principle is fundamental and inherent to the constitution of every society....The social compact would be virtually destroyed were it not for the universality of the extent of the protection it offers to all property.' 20

Piecemeal reforms would serve no purpose, for as 'Vindicator' explained, 'absurdities [are] interwoven with and integral to the PRINCIPLE of issuing patents'.²¹ What was required ideally was a system which assured rights, even to valueless inventions, on demand. Unlike Hodgskin and some of the correspondents of the Mechanics' Magazine, 'Vindicator' did not deny the efficacy of the law to safeguard such units of new technology. Instead he argued that patents should be protected by the full rigour of the criminal law.²²

In the ideological base provided by the classical economists for the emergent 19th century middle class the place of innovation had not always been analysed in terms of inalienable individual rights. Nevertheless, 'rights and property', 'technological innovation' and efficient government were all concepts of symbolic importance to the middle class. They were all concepts which, in slightly different context, the middle class used when asserting its own independence. They therefore had to be taken seriously by anyone who wanted middle class support.

What Weber has called formal natural law arguments (see the discussion in Chapter 1 above), from the tradition that 'Vindicator' epitomised, were of ambiguous value to patent agents in their attempts to influence change in the patent system. On the one hand they could not reject 'Vindicator's' eloquent plea for a formally just patent system, his denunciation of the excesses of the existing patronage-based administration or his claims on behalf of inventors. On the other hand, if his prescriptions could be put into effect and if the system could be simplified to such an extent that it could easily be patrolled by the existing apparatus of criminal law, there would be no legal or bureaucratic framework within which patent agents could exercise their unique combination of occupational skills.

In practice this dilemma was not insoluble; for, as Weber pointed out in his discussion of natural law as an ideology, a completely formal natural law could not exist since 'such a natural law would consist of general legal concepts devoid of any content'.²³ Although the ideal of formal natural law contained high standards these were lowered when practical problems, inherent in existing systems appeared. Weber explained how this process took place:

'In purely formal natural law, the reasonable is that which is derivable from the eternal order of nature and logic, both being readily blended with one another. But from the very beginning, the English concept of "reasonable" contained by implication the meaning of "rational" in the sense of "practically appropriate".'²⁴

According to Rheinstein, Weber had in mind the gradual 'shift from natural law thinking to utilitarianism, as expressed by Bentham, John Stuart Mill and Spencer', when he wrote this passage.²⁵ It was precisely this utilitarianism which patent agents chose to stress in the middle class ideology of their clients. They published natural property right arguments and did not attempt to refute them. Instead they simply ignored the implications of a blanket condemnation of the existing patent system, and concentrated on changes which could 'reasonably' be made to the existing system in order to improve their clients' (and their own) positions.

Although Newton did not ever directly contradict 'Vindicator' and granted wide publicity to his ideas through his journal, his own approach was cautiously utilitarian. Thus while he supported the introduction of scientifically trained experts into the patent administration he did not believe that such a change need entail the replacement of the whole system. A patent, Newton argued, should still be granted by the King. Costs should only be reduced by removing stamp duties so that 'officers could be left in possession of their fees'.²⁶ Newton could only justify such a hybrid mixture of changes by claiming, rather vaguely, that specific changes were 'reasonable'.

The manipulative success of Newton and his colleagues lay in their ability to suggest that changes which they proposed and which would in fact increase the scope for expertise, were not totally unlike the proposals of people like 'Vindicator'. In the early period of the reform movement their

lack of response to the challenge of abstract, 'ideological' questions assisted in accomplishing this.

C. Finally some patent agents had such close and lucrative links with the unreformed patent administration that it was very difficult for them to criticise the existing system, even where reforms might lead to them becoming more independent. Thus, for example, Moses Poole when asked to state his views replied:

'I have no particular views; I do not see any defect in the present law; perhaps the specifications might be made more sure.' ²⁷

However, when their clients began to realise that they might be able to secure their interests more successfully under an improved system even the most conservative patent agents had to make some attempt to appear concerned. The views of the conservative group of patent agents, in particular of Poole and his later partner Carpmael, were expressed by the Repertory of Patent Inventions. The technological information in this journal consisted almost entirely of reprinted specifications of patents. This gave it a semi-official character. Unlike its competitors its only critical reference to the patent system in the period before 1829 was a report of the abortive meeting held under Birkbeck's chairmanship in 1827 to discuss the 'Emancipation of Mechanical Genius.' ²⁸ In general though, this group had little initial impact on the reform movement except where their rebuttal of its arguments lent publicity to its existence.

III. Legislative Reform - the first phase

A. The 1829 Select Committee

In April 1829 Parliament, in response to 'public' pressure ²⁹ took its first positive step towards general reform and appointed a Committee of Enquiry into the patent system. ³⁰ This appointment was a sign that the power of the old aristocracy to administer the patent system in the traditional way was being threatened. It does not however indicate a capitulation on the part of the old elite but can rather be interpreted as an attempt to reaffirm its control of the increasingly lucrative patent system.

The arguments used in the debate which led to the committee being set up, support such an interpretation. They were phrased in such a way as to limit

the scope of the debate about the patent system and also to legitimate the existing system as far as possible. Thus T B Lennard, who introduced the motion, outlined the long historical pedigree of the law of patents and stressed that he had no intention of infringing on the principle on which the law had traditionally been based nor of challenging the prerogative of the King to grant them. He made no mention of any kind of rights of inventors whatsoever but simply argued that the patent system had traditionally been intended to reward inventors and to stimulate industry and ingenuity. He supported these goals and merely wished 'to make the law efficient for these purposes'.³¹

Lennard also attempted to defend the existing administration and to protect the income of the officials it employed:

'He should not say anything in regard to the expense of taking out a patent; he had heard it spoken of as a grievance, but he was not prepared to say that the law required any alteration in that respect. It was his own opinion at present, and he knew it was the opinion of many persons who had great experience in that part of our laws, that it was not desirable to facilitate over-much the obtaining of patents by any reduction of expense.' ³²

Most speakers shared his cautious approach.³³ They included the Home Secretary, Robert Peel. In his speech, Peel revealed that the old elite which benefited directly from the inefficient and expensive patent system was not without allies. Not all entrepreneurs wished to see a cheap and efficient patent system. Like Adam Smith, he was prepared to distinguish between major inventions which deserved to be protected by patents and those lesser improvements which were beneath protection. He is reported as saying:

'He entertained some doubt, however, whether any great advantage would be derived from diminishing the expense of taking out patents; as, if there were too great a facility in the taking them out, a patent might be asked for any inconsiderable and unimportant invention. Manufacturers in such towns as Birmingham and Manchester, who had large establishments, might be made liable to vexatious actions brought against them by persons taking out patents for some improvement, which they, unconscious of the existence of such patents, might already have brought into practical operation. The subject was one which should be proceeded in with great caution and circumspection.' ³⁴

Later in 1829 the report of the Committee of Enquiry was published.³⁵

Evidence had been submitted by a large number of disparate individuals including manufacturers, engineers, patrons of the arts and patent agents. Almost all argued that the substantive law was uncertain, and that the existing administration was not functioning properly. Most wished to preserve some sort of barrier to keep out trifling inventions and to eliminate imposters. The criteria for achieving this were left vague and no one was prepared to suggest outright that the existing administration be totally abolished. The result was that the Committee made no specific recommendations. It simply presented the evidence submitted to it in lieu of a report.³⁶

The Committee was not reappointed.

The old elite might have seen the appointment of a committee of enquiry as an ideal tactic to lessen the pressure for reform. Yet paradoxically the inconclusive report provided the material for raising reform of the patent system into a national issue. Its publication provided the occasion for a discussion of the issue in the general press. In October 1829 The Times began a series of articles which were based on the evidence given before the Committee.³⁷ These articles were highly critical of the existing patent system and suggested that reform was 'a subject that eminently affects the interest of the public as well as individuals [because of] its connection with science and with the operations of the mind'.³⁸

The evidence given before the Committee was read by the popularisers of the classical economists' ideas on the importance of new technology. It was noted by the political reviews in the context of encouraging innovation. Thus, for example, the Westminster Review analysed the evidence of the 1829 Committee in detail. It stressed practical problems and unnecessary expense and concluded that 'ample room remains here for rooting out abuses flagrant, absurd, and intolerable'.³⁹

Similarly even the Tory Quarterly Review used the evidence to show that the old order, by failing to patronise the sciences adequately, was neglecting its 'duty' to advance the new technology needed by industry. In an article, entitled 'Decline of Science in England', presumably written by the eminent scientist Daniel Brewster,⁴⁰ it attacked the patent system as fiercely as any radical critic, describing it as

'a system of vicious and fraudulent legislation, which, while it creates a factitious privilege of little value, deprives its possessor of his natural right to the fruit of his genius, and which places the most exalted officers of the state in the position of a legalized banditti, [sic] who stab the inventor through the folds of an act of parliament, and rifle him in the presence of the Lord Chief Justice of England'. 41

Nor was it taken in by Peel's argument that patents ought not to be too easy to acquire:

'Sir Robert Peel stated, in the House of Commons, that if patents were made too cheap, the manufacturers of Manchester and Birmingham would be put to great inconvenience. Without noticing the novelty of the principle of taxing inventors for the convenience of the manufacturers of these towns, we may ask if the manufacturers here referred to are the pirates who lie in wait for the poor man's inventions, or the respectable tradesmen who would scorn to touch the property of their neighbour? The former do not deserve our sympathy, and the latter do not require it.' 42

The solution suggested was a renewed role for the old order. It did not wish to reform the patent system but rather wanted a revitalised system of patronage administered by scientific boards. What was required was 'an association of our nobility, clergy, gentry, and philosophers which would rescue the science of England, the principle of her arts [which was] struggling for existence, the meek and unarmed victim of political strife'.⁴³

The possibility that patent law reform might become a viable political issue was increased by the extensive coverage which the evidence before the Committee was given in the technological journals. Major proportions of the evidence were serialised verbatim during the following three years by all those journals.⁴⁴ During this period correspondents were encouraged to comment on the proposals that appeared. Many of these letters made scathing comments about members of the old aristocracy who had urged that reform be approached cautiously whilst they themselves drew huge incomes from the office of the old administration. A satirist described the proceedings in parliament:

'One senator in our chapel has "no intention of encroaching on the prerogative;" another says, "the subject is full of difficulties, and should be approached with caution;" a third, who actually derives an income of about £2000 per annum, from the "mere motions of the thing," finds it an unfortunate, erroneous, but very general opinion, that the thing may be made to work better with less oil; and a fourth, who was lately one of the priests of the temple, deriving an annual aid from the aforesaid "mere motions," to the amount of above £3000 - with a kind of star-light gaze at a reinstatement to his resigned office - cannot assent that any thing but the "thing" itself shall operate our protection, notwithstanding the unfortunate, erroneous, but very general misgivings as to the utility and expense of those operations.' 45

By 1833 the stage was set for anyone who wished to exploit the issue of control of new technology through the patent system. In particular, patent experts could attempt to show that they had the power to shape new legislation to the benefit of their clients.

B. Godson's Bill

The first person to attempt to do this was Richard Godson MP, barrister and patent expert by dint of his textbook on patent law.⁴⁶ In the House of Commons on 19 February 1833 he introduced the first general Bill to reform the patent system.⁴⁷ He had laid the foundation for his Bill by publishing a special supplement to his textbook in which he outlined what he considered to be the major defects of the patent system.⁴⁸ In his speech introducing his Bill he promised to improve the inventor's position. This would be effected principally by eliminating more formalities and by allowing specifications of the content of patents to be amended under certain conditions. Godson's speech met with cautious approval; much as had the proposal to set up a Committee of Enquiry in 1829.⁴⁹

Patent experts were, however, universally hostile and used the occasion to undermine their own individual claims to a unique expertise in representing the interests of inventors. On 13th February The Times had sketched out Godson's aims and given his Bill a cautious welcome. Two days later Newton and Berry wrote to The Times in their capacity as patent agents and strongly condemned Godson's tactics. It would serve no purpose, they argued, to attack 'the vested rights of many persons and the ancient prerogatives of the Crown'.⁵⁰ The average inventor dealt with the various offices through his agent and was not put to the inconvenience of dealing with them personally.

What the inventor desired was a reduction of the 'exorbitant fees and stamps'. Godson, they hinted, was not a true representative of the interests of patentees. They, on the other hand felt qualified to speak as they were 'tolerably well acquainted with the defects of the existing laws and also with the opinions of patentees in general in different parts of the kingdom'.⁵¹

Robertson in the Mechanics' Magazine was even more indignant and attacked the Bill for being 'drawn up in an excessively careless and slovenly manner'. He contended that it should have been called 'a Bill to unsettle and perplex the Laws respecting Letters Patent for Inventions, to secure to rich men exclusively the property of their Inventions, and finally to throw open the whole arts and manufactures of the country to a grasping and ruinous system of monopoly;' and published a clause by clause exposé of its shortcomings. 'Mr Godson,' he concluded, 'has evidently undertaken a task for which he is unequal; and perhaps the sooner he abandons it the better.'⁵² Not content with this personal attack Robertson also attempted to appeal to members of parliament directly and sent them copies of his detailed criticisms of Godson's Bill so that, in his words 'the poor inventor might find an advocate, and the true interests of the country an enlightened asserter'.⁵³

Newton, editor of the London Journal of Arts, also tried to set himself up as an alternative to Godson, as a champion of the interests of patentees. He suggested that his readers should not attempt to influence Godson by writing directly to him. Instead they should call public meetings in their own localities.⁵⁴ Shortly after this appeal Newton published his own draft of the form he thought Godson's Bill should take.⁵⁵ It did not differ substantially from Godson's Bill except that it made provision for the introduction of expert patent commissioners. In general it maintained Godson's legalistic bias.⁵⁶

Meetings to discuss Godson's Bill were duly called by the 'manufacturing interests' in Birmingham, Manchester, Leeds, Glasgow, Sheffield and Nottingham.⁵⁷ At these meetings resolutions were passed which laid down guiding principles for the reform of the patent system. Thus, for example, the meeting in Birmingham

'resolved unanimously - That every new idea, whereof the manifestation or development may become useful to society, belongs exclusively to him who conceives it, and that it is highly advantageous to the useful arts and manufactures to encourage industry by securing the property of inventions to their authors... at a moderate expense.'⁵⁸

Newton was present at some of these meetings and had no difficulty convincing those present that their ideal (utilitarian) notion of property would be adequately defended by a modification of the patent system. At Birmingham and Leeds his expertise persuaded them that his redrafting of Godson's Bill precisely reflected their ideals. They also nominated him to represent their interests to the legislator.⁵⁹

More traditionalist patent agents also contributed negative criticism. William Carpmael wrote a pamphlet which pointed out that some of Godson's proposals were unworkable.⁶⁰ Carpmael's views were echoed in the Repertory of Patent Inventions which blamed the 'clamour, raised against the patent laws' on ignorance 'existing in most classes of society' about the perfectly clear, but difficult to find, decisions, which courts had given on all disputed questions.⁶¹

In the face of all this agitation Godson's Bill was referred to a Select Committee of the House of Commons.⁶² Whilst the Bill was being considered 'a highly respectable and numerous meeting of patentees and other scientific gentlemen' was held in London.⁶³ Among the participants were many people who had been influential in spreading middle class ideals of the importance of technology. Dr Birkbeck of the London Mechanics' Institution was chairman. Other participants were Babbage and Tolpis, secretary of the London Mechanics' Institution, and also patent experts such as Newton and Rosser, a solicitor with a large patent practice. Their general approach reflected their pragmatic orientation to existing institutions and their attempts to carry the middle class ideal to others.

The wealth of the country, they remarked, had 'principally resulted from the unrivalled skill, energy and enterprise of the productive classes' - i.e. members of their own class. The patent system still provided the best way of securing this wealth. It was, they argued in a clear attempt to extend the hegemonic dominance of their views, 'for the common interests of all classes, that the profits arising from improvements in the arts, and manufactures, should be secured to their authors for certain limited periods'.⁶⁴ Once these general resolutions had been passed a working committee was set up which drafted a set of detailed proposals which were more elaborate than those in Godson's Bill. They included the whole range of reforms suggested by the pragmatic middle class reformers. They suggested inter alia the creation of an independent body of scientifically trained experts to examine specifications

in order to ensure the sufficiency of the descriptions offered. Fees should be drastically reduced. The administration should be rationalised so that documents could be consulted more easily and so that officials could not practise privately as patent agents. A copy of the 28 proposals and a list of 34 separate comments on Godson's Bill were all sent to the Select Committee which was considering Godson's Bill.⁶⁵

Given all this pressure and criticism from within the 'reformist' ranks it is not surprising that the old aristocracy which stood to lose some of its income and powers of patronage if Godson's Bill were passed, was able to defend its privileges in parliament. The defeat of Godson's Bill came in two stages. In order to attempt to salvage some of the reforms the Select Committee bowed to traditionalist pressure and reported that the Bill should be divided into two separate Bills.⁶⁶ The Bill which contained the 'substantive' reforms should be considered but procedural reforms which would entail reducing the number of traditional offices should be regulated to a second Bill which should be postponed indefinitely.⁶⁷ This approach was followed. The substantive measures were passed in the House of Commons but allowed to lapse in the House of Lords.⁶⁸ When questioned in the House of Lords, the Lord Chancellor, Lord Brougham, announced that he personally would submit a new and improved Bill in the following session.⁶⁹

The defeat was hailed as a triumph in the London Journal of Arts⁷⁰ while Robertson extravagantly claimed in the Mechanics' Magazine that he alone in the press had secured the Bill's defeat.⁷¹ Although patent agents with reformist ideals had played a large part in the defeat of Godson's Bill they did not pause to analyse what had happened as 'more positive' reform seemed about to follow. The immediate result of the outcry surrounding Godson's Bill was to raise public awareness of the necessity for patent reform to the extent that a leading politician would consider it worth his while to intervene. Nevertheless the diversity of opinions among patent experts showed that they were not yet united in an effort to fulfill a professional ideal.

C. Lord Brougham's Act

Initially Lord Brougham's intervention seemed to stand a good chance of fundamentally reforming the patent system. Certainly Newton in the London Journal of Arts seemed genuinely hopeful that Brougham might succeed where

the 'mutilated fragment' of Godson's Bill had failed and offered to supply him with all the relevant information on patent reform.⁷²

In the event Brougham's Bill of 1835 was even more limited in scope than Godson's initial Bill. Brougham's speech contained no fundamental statement of principle and merely defended the existing patent system on the grounds that it balanced conflicting interests more effectively than a hypothetical new patent system. The content of the Bill reflected the shallowness of its conception. It made no attempt to reduce fees or to eliminate any of the offices through which a patent application had to pass before it was granted. The only changes of any consequence which it introduced were procedures for correcting errors in the original specification and a simplified process for applying for an extension of the normal period of the grant. It also made provision for triple damage to be awarded if a patent were unsuccessfully challenged in the courts after it had been upheld in a previous trial.⁷³

Opposition to Lord Brougham's Bill came from the same 'experts' who had attacked Godson's Bill for not going far enough. Thus the London Journal of Arts compared Lord Brougham's Bill unfavourably to the earlier Bill which had at least attempted some substantial improvements.⁷⁴ Its prolific correspondent, 'Vindicator,' launched a comprehensive attack which accused Lord Brougham of not even attempting to deal with the 'exorbitant fees demanded, paid to and received by certain automaton who represent certain antiquated bags and things, whose vested interests are deemed sacred'.⁷⁵ 'Vindicator' concluded by condemning Lord Brougham in broad ideological terms for acting against the interest of the inventor whose cause he pretended to adopt.

'[A]n amendment of technical legal anomalies, and the consequent better security of patent property, however valuable in itself, is inefficient for the mass of inventors; it is only legislating for those who purchase the poor man's invention, instead of enabling the poor man himself to secure his intellectual property and place it in the public market; it is legislating for the capitalist, against the man of genius and inventive talent - for the rich, against the intellectual mechanic - for upholding of useless formalities and expensive antiquated forms, against the plain principles of sound policy, of public good, and of individual inherent rights in matters of property: in short, such legislation is equally inimical to our commercial prosperity as a nation, and to our unfettered progress in the road of scientific improvement, which only requires for its full development plain and just laws, simple and unexpensive forms of protection. Lord Brougham's Bill is the production of the mere lawyer, not the comprehensive essay of the philosophic legislator and determined reformer.' 76

Robertson in the Mechanics' Magazine used similar language to condemn the Bill as a whole.⁷⁷ At the same time he specifically attacked parts of the Bill which he thought might infringe on the sphere in which his occupational expertise was exercised. He described the provision allowing amendment of specifications as an attempt to deal with 'imaginary' grievances. A patent agent who was a true expert did not require such a provision. He suggested disparagingly that it had probably been inserted for the benefit of incompetent rivals.

Patent law reform had been raised to a national political issue by Lord Brougham's involvement and his opponents were quick to exploit the opportunity of pointing out that his efforts at reform were unacceptable to the poor inventor whom he was supposedly trying to encourage. Thus The Times reprinted large sections of the critical comments which Robertson made in the Mechanics' Magazine. It repeated libellous allegations of mysterious plots:

'[W]e could throw such a light on the private history of this Act, as would make more than two or three very busy bodies run for concealment to any hole or corner that offered - a foul chimney with a ragged and sooty innocent for companion - not excepted. But 'tis, perhaps, as well; the Act is its own best commentary; there wants no private history to convince every intelligent and reflecting mind that the persons who framed it (the real, not the ostensible framers we mean) could have neither at heart the good of inventors nor the good of the public.' 78

In spite of all this opposition and abuse Brougham's Bill progressed through parliament. Notwithstanding a lukewarm reception in the House of Commons where it was described as a 'miserable, bungling piece of legislation',⁷⁹ it passed into law substantially unamended.⁸⁰

The passage of Brougham's Act was the climax of the first phase of legislative reform. It was the first general piece of legislation governing new technology to emerge after the Industrial Revolution. Its flimsy content represented a triumph for the old order which had managed to preserve intact its position of control. The extent of its triumph is apparent from the arguments advanced in defence of the Act. A correspondent in The Times wrote that the Act had achieved all that could be hoped for and concluded:

'His Lordship Brougham has shown great forbearance, in common with some individuals, whose names would be worth mentioning in refraining from persisting in the advocacy of certain measures (the cost of patents for instance) which would have endangered the passing of any act at all.' 81.

Further evidence of the Act's inefficiency was the effusive support it received from the traditionalist Repertory of Patent Inventions:

'We congratulate our readers on the passing of this measure, strengthening as it does the possessors of patent property.... [W]e trust we shall, in future, hear no more of insecurity of patent law. We have no doubt that a clamor will be made by certain interested parties in order to get the question of patent law reopened; but who will these parties be? - not the patentee or would-be patentee - not the ingenious inventor, but those who, having no invention themselves, wish to pirate the talent of others:- those who, under the sheep's clothing, pretend to be the friend of the poor man, but are only desirous of having an unsettled and agitated state of law, that they may avail themselves of the ingenuity of others. We therefore say to all patentees, and would-be patentees, beware of those who would again open the question.' 82

D. Conclusion of the first phase

After 1835 further desultory efforts were made at general reform but they were easily defeated. In 1836, 1837 and 1838 reform Bills were introduced in the House of Commons.⁸³ None of them reached the stage of a second reading. Only in 1837 was there a brief debate. In it the Attorney-General openly showed that he had little stomach for reform. He declared that, except for some minor administrative problems, 'the machinery which was now in existence would be pretty effectual'.⁸⁴ In 1839 Lord Brougham again successfully introduced a Bill but it was a mere technical amendment of his 1835 Act.⁸⁵ For a decade the issue of patent reform dropped out of national politics and was virtually ignored by the general press.

This did not mean that dissatisfaction with the way new technology was controlled disappeared entirely. An undercurrent of discontent remained throughout the late 1830's and early 1840's and the down-trodden inventor continued to be mentioned occasionally in radical publications.⁸⁶ The mood was perhaps best summarised by a correspondent in the Mechanics' Magazine, who claimed:

'The almost annual attempts at amending the patent laws are only so many trials to make the theory of privilege, and its consequent practice, fit the universal feeling of right; but the crooked billet offers no fare that will fit.' 87

The end of the first phase of patent reform demonstrated the extent of the power which the old aristocracy still held in various parts of the

social structure. At the ideological level their hegemonic dominance had been eroded and they were unable, as in the 18th century, to exercise what Lukes calls three dimensional power by limiting the perception of the problems caused by the inefficient patent administration. In this regard the middle class ideal and to a lesser extent, the working class ideal, articulated by and through patent experts, provided alternative views of the reality of patent administration which clashed directly with these of the old order.

The old order was not, however, without allies. It might even have managed to increase support for the existing system by relaxing the restriction on the number of partners who could have a share in a patent. The change strengthened the alliance with large manufacturers which Peel had hinted at, for it made it easier for wealthy capitalists to exploit patents without making them cheaper to obtain or defend.

The parliamentary battle also demonstrated the continuing hold of the old order on the institutions of the state. The fact that Brougham had been persuaded to withhold any attacks on their position is evidence of their power of a two dimensional kind - i.e. the power to exclude the discussion of certain issues. Indeed his Act had the effect of legitimating the traditional patent system for it now bore the stamp of a system reformed by someone who had taken a keen interest in the lot of the poor artisan turned inventor. After Brougham's Act had been in operation for a while the Repertory of Patent Inventions noted how successfully the patent system was functioning:

'We again congratulate patentees on the passing of this measure, and we again repeat to all patentees, and would-be patentees, beware of those who would again open the question, we consider it now settled - and well settled.' 88

The victory of the old order was, for the time being, complete.

The role of the patent agents in the first phase of reform had been limited. As has been demonstrated, they did play an important part in generating the reform movement, but their efforts to control and direct it to their advantage failed. The old order was able to exploit the divisions in their ranks. Nevertheless, their participation laid the foundation for similar action at a later period when they and their middle class allies

would be in a more powerful position. Already they had largely succeeded in making the debate about the patent system a debate about legal and administrative reform. In so doing they ensured the continued existence of their future as a 'professional' occupational group.

IV. Industrial design and new technology (An interlude in the movement to reform the patent system)

Until the late 1830's the patent system was thought to embody the only legal knowledge directly applicable to the control of units of new technology. This perception was shared by both the defenders of the system and its critics. However, when obstacles to patent law reform proved insurmountable, the focus of reformist interest temporarily shifted to the possibility of controlling units of new technology by means of the law of copyright in design.

The intellectual roots of the new approach were in the common law protection of literary copyright. From the beginning of the Industrial Revolution, copyright, as another form of state protection for the products of intellectual labour, had rhetorically been compared to patents.⁸⁹ The inference had always been that they should be equally protected. The initial interest in copyright in industrial design, which emerged in the 1830's, owed little however, to any upwelling of ideological support for either a substantive or a formal natural law notion of a right to the products of (intellectual) labour. Instead the driving force was the pragmatic fear of foreign competition.

In 1835 and 1836 a Committee of Enquiry examined the state of arts and manufactures in Britain.⁹⁰ In particular, it was concerned with the lack of artistic quality in British products when compared to French products. The original focus was primarily on patterns for fabrics. (The copyright in such patterns was protected without any form of registration, for a short period, as a result of legislation which had been passed in the late 18th century.⁹¹) In the course of the evidence before the Committee the problem of protecting designs of all kinds was raised. Some witnesses even discussed the lack of protection for 'inventions'.⁹² In this discussion the terms 'invention' and 'inventor' were used loosely and referred to a much wider range of innovation than had previously been governed by any part of the legal system.

In its Report the Committee recommended that the scope of copyright in design be widened to include protection of designs in manufactures other

than fabrics.⁹³ It did not explain exactly how this should be accomplished but did suggest that some system of registration be set up to record all new designs. In this roundabout way the possibility was therefore raised that a separate and entirely new bureaucracy could be created to protect some types of invention. The opportunities which it presented for a change in the mode of legal-bureaucratic control of new technology were not lost on those who were trying to change the patent systems. In 1838 the Mechanics' Magazine noted:

'Mr MacKinnon, in evident despair, at the apathy evinced by the legislature upon the subject of an amended patent law, has for the present abandoned even the attempt to force the subject upon the consideration of parliament. In order, however, that one injured and unprotected class of inventors may not hang as a millstone about the neck of another, he has thrown aside the fourteen years patent question, and is now struggling for a twelve month copyright for pattern designers. In so doing he is following the suggestions of the Commons Committee on the Arts and Principles of Design....' 94

Mackinnon's 'Patterns and Inventions Bill' was soon defeated;⁹⁵ but it was just one of the Bills which related the reform of copyright in fabric patterns to the control of new technology. In 1839, Poulett Thompson MP, a member of the 1835-6 Committee, successfully introduced two new Bills in Parliament. The first of these merely extended the scope of the 18th century provisions relating to fabrics. The second Bill went much further.⁹⁷ It made provision for protection, for periods of from twelve months to three years, to be granted in the copyright of designs of manufactured articles, excluding fabrics. Protection could only be achieved by registration by the 'proprietor'. Designs could be freely bought and sold. The rights of proprietors were protected by a single simple procedure which allowed them to sue by summary proceedings before two justices of the peace. Compensatory fines of between £5 and £30 could be levied. In such a trial a certificate of registration would be prima facie proof of the registration and originality of the design.⁹⁸

This Bill passed into law with surprising ease. It elicited no opposition from those with vested interests in the patent system; even though it clearly referred to the control of innovation. In his introductory speech Thompson had made it clear that one of his objects was to establish a form of protection:

'for those inventions which were only wanted for a very short time, and the inventors of which could not afford to go to the expense of obtaining patents in the ordinary way. [He continued] that one of the reasons why all previous attempts to secure protection for the articles in question had failed was that the promoters of them had endeavoured to extend the provisions of the patent laws to those articles which were not by their nature capable of achieving the protection they afforded.' 99

At the time of its conception the Registry of Designs presented a stark contrast to the unreformed patent system. For unlike the early modern bureaucracy of the patent system it displayed all the characteristics which Weber has attributed to modern bureaucracy under legal domination.¹⁰⁰ Thus the 1839 Act laid down that officials were to be employed on a full-time basis and at a fixed salary. The loyalty of the officials was to be undivided. The Act specifically prohibited, on pain of dismissal, the registrar or any person employed by him from demanding or receiving any gratuity or reward, whether in money or otherwise, except the salary or remuneration authorised by the Commissioners of the Treasury.¹⁰¹ Furthermore the system contained no formalities not directly and rationally related to its primary task of registering designs. Registration took place promptly and cheaply. In contrast, the patent system still contained numerous and obscure traditional formalities and required extra fees in order to expedite its process of registration.

The contrast between the two types of administration was also apparent in their influence on legislation. The direct influence of the actual administrators of the unreformed patent system was limited. They were dependent on their patrons and adopted defensive ideological positions. They defended their sinecures primarily in terms of a traditional entitlement to office. On the other hand the new bureaucrats could positively influence changes in the registration of designs because their position allowed them to stress impersonal objectives - what Weber has termed 'reasons of State.'¹⁰² Since the reasons they advanced for changes related directly to the professed objective, in this instance the Designs Act, their motives would not be questioned. The fact that they were extending the scope of their own activities, i.e. their power as bureaucrats, at the same time, might pass unnoticed.

The first sign of such positive influence was apparent in the final form of the Copyright of Designs Act, 1842.¹⁰³ In its original form this Act had been introduced only in order to have fabric patterns included in the system

of registration.¹⁰⁴ The initial Bill generated a great deal of protest and parliamentary debate but discussions remained limited to questions relating directly to the art of textile printing.¹⁰⁵ In 1842 however, the leader of the campaign, Emerson Tennant MP, announced that he had been requested by the government to introduce a Bill which would consolidate all the legislation relating to copyright in designs.¹⁰⁶ Such a Bill would allow the Registrar to reorganize the registration of designs according to new and supposedly rational categories. This Bill was taken over by the government and became law in 1842. The number of designs registered increased dramatically after 1842.¹⁰⁷

More direct was the influence of the new bureaucracy on the 1843 Designs Act. Although the 1842 Act extended the scope of the law of copyright in designs, it had laid down specifically that registration referred only to the 'ornamenting' of articles.¹⁰⁸ The interpretation of the term 'ornamenting' does not appear to have been considered by the courts, but it could have eliminated the registration of many inventions which had been registered under the vague provisions of the 1839 Act. In 1843 a further Copyright of Designs Act slipped through Parliament without any debate.¹⁰⁹ It specified that designs of articles of utility could be registered as a separate category. Once again the scope of the activities of the Registrar of Designs increased. The Mechanics' Magazine attributed the Act directly to the (beneficent) activities of a creative bureaucrat:

'[W]e feel bound to state that we never met with a gentleman in an official situation who exhibited more anxiety than Mr Long [the Registrar of Designs] to perform his duty well, or in more strict accordance with the spirit of the Acts from which he derives his authority. It is not unknown, besides, that so far from being in the least unfriendly to the greatest possible extension of the privilege of registration, it was in no small degree owing to Mr Long's representations and exertions that the last Act, extending it to articles of utility as well as to articles of ornament, was passed.' 110

The development of the system of protecting copyright in design by registration provided patent agents with an opportunity to extend the scope of their professional activities. The opportunity was not ignored although the controversial area of fabric patterns seems to have been avoided. Thus the London Journal of Arts followed its first notice of the 1839 Act with an advertisement which stated:

'Any further information on the subject of the Registration of Designs in different branches of the Arts, may be obtained at Messrs Newton and Berry's Offices for Patents, ... where instructions for registering such designs will be received, the fees and charges upon the transaction of which business, on an average may be stated at £4.4s.' 111

The proprietor of the Mechanics' Magazine published similar advertisements.¹¹² Even the traditionalist Repertory of Patent Inventions serialised a work by the patent agent, William Carpmael, on the registration of designs.

Paradoxically, it is doubtful whether, in spite of its obvious administrative advantages, the system of registration of designs substantially increased either the economic value or the extent of the legal protection accorded to new inventions. The fact that, with the exception of the peripheral field of fabric patterns, the Acts passed into law without major opposition from large manufacturers or from those with vested interests in the administration of the unreformed patent system is significant. It indicates that they did not see themselves being disadvantaged by the system of registration. Instead, the introduction of a cheap but limited alternative to the patent system represented the legislative culmination of the two-tier conception of innovation which, since the time of Adam Smith, had distinguished between innovation which was the material product of the division of labour and more important inventions which should be adequately rewarded and protected. Such an argument is supported by the limited period of protection offered and by the small maximum penalties.

Even patent agents who made use of the Designs' Acts differed concerning their value. On the one hand Robertson in the Mechanics' Magazine hailed their introduction enthusiastically:

'We look upon it as a real boon conferred on the Genius and Industry of the people - as their Act of emancipation from much, if not the whole, of that enormous load of oppression, which our wretched and monstrously expensive system of patent law has for ages imposed upon them.' 113

The London Journal of Arts was far more sceptical and suggested, in 1847, that the extension of the Designs' Acts to articles of utility had been disastrous, particularly since they clashed with patents in such a way that the registration of a design could undermine the validity of a patent without offering alternative protection. It quoted examples of actual instances to support its contentions.¹¹⁴

The legal interpretation of the words 'shape or configuration' which the 1848 Act used to describe what could be registered, remained obscure - although it was generally accepted that all chemical inventions were excluded. Rather surprisingly there was very little litigation about copyright in designs. To some extent this impression might be false because most litigation must have taken place before lay justices of the peace who did not give written judgments.¹¹⁵ Supporters of the system claimed that the relative lack of litigation demonstrated

'a sort of conventional moral respect for them [registered designs] among inventors; and that, although the registrations are not valid in law, they are held so in morals, and that little, if any, piracy of them takes place, and that none of that enormous litigation which it has been prophesised would attend the recognition of small rights has been the result'.¹¹⁶

A more likely explanation was advanced by Newton in the London Journal of Arts. He observed sarcastically that 'the known illegality of a registration is surely not a very strong motive for a registree to test the validity of his claims in a court of law'.¹¹⁷ Only in 1851 did the courts give reasoned judgments on the scope of the 1843 Act. In the case of Rogers v Driver¹¹⁸ it was held that the design of a new type of brick which was hollow on the inside would be protected by registration. The fact that it might also have been patentable did not influence the result. In contrast in the Queen v Bessel,¹¹⁹ decided during the same year, it was found that a new hinge could not be the subject of registration although it would be patentable. The reason was that although the principle was new, the actual shape of the parts was not. In ensuing years the courts continued to limit the scope of the definition of a design which could be registered.¹²⁰

If the economic and legal effects of the Designs Acts were uncertain, its symbolic importance was undoubted. Its existence lent support to the argument that a whole class of hitherto unprotected new inventions should be protected in some way. Its bureaucracy was an example to be contrasted with the existing patent administration. These factors will be considered in the context of their interaction with the renewed call for patent reform.

V. Legislative reform - the second phase

A. The role of the entrepreneurial middle class

In the late 1840's the debate about the reform of the patent system was revived.¹²¹ Social and economic conditions had evolved since the first phase

of reforms in the 1830's. A relative increase in the power of the entrepreneurial middle class had taken place from the beginning of the extended period of prosperity which was to last from about 1848 until the early 1870's.¹²²

(i) The Great Exhibition and the Society of Arts. The increasing self-confidence of the middle class was expressed through the Great Exhibition of 1851 organized by the revitalised Society of Arts and supported by public meetings throughout the country as a celebration of the growing importance of new technology. Commenting in his book, The Exposition of 1851 or Views on the Industry, the Science and the Governance of Britain, Babbage attributed the positive developments in technology and in society as a whole to the middle class and explained:

'With the increasing wealth of the country, and with the greater application of observation, of reasoning, and of science to its many arts and manufactures, a vast increase had been produced in the numbers, the power and the influence of the middle classes.'¹²³

In contrast to the hardworking middle class, Babbage observed that the old elite were involved in party politics which existed only for the aggrandizement of a few families. The dawn of the Exhibition was the time, he suggested, for the middle class to stand up for its rights and to implement the 'economical reform' which would eliminate the powers of patronage.¹²⁴

The Exhibition was also seen by its organizers as an opportunity to extend to the working class the hegemony of middle class ideas of how technology should be produced. One of the organizers explained that members of the working class should be encouraged to visit the exhibition since

'prejudices, incorrigible by argument, will then melt away before facts, indisputable because seen and handled by themselves.... In due time, many of them will think more and drink less, as a result of these repeated and lengthened visits to the Exhibition.'¹²⁵

Not only would working people learn a lesson in technology but they would also comprehend the realities of the 'natural order' of society. From the exhibition they would learn that

'[t]he reciprocal dependance of capital and labour is so absolute and inseparable, ... that were it possible for the objects crowded under our eyes in the Exhibition, to be resolved into their elements, so as to shew the exact portion contributed by each, probably the division would be more nearly equal, than either has supposed.' 126

The Great Exhibition also served to focus attention specifically on the control of new technology. Practical considerations linked the issue of patent reform to the organization of the Exhibition, for the question arose whether the articles exhibited would be protected in any way. In 1850 and 1851 Acts were passed for the specific purpose of providing such protection.¹²⁷ They provided respectively that designs and patentable inventions, if registered, could be exhibited publicly for the period of the Exhibition without prejudice to later applications for protection. As explained below, these Acts directly influenced some of the provisions of the major reforming legislation of this phase, the 1852 Patent Law Amendment Act.

The widespread enthusiasm for technological innovation also contributed to the creation of the conditions within which the issue of patent reform became topical. Thus E J Hughes, a Manchester patent agent, explained in his rather self-aggrandizing account of the reform movement in Manchester:

'I had been convinced of the necessity of alteration for many years, but found it impossible to meet with anyone willing to join me in the trouble and expense of agitating the subject until the Great Exhibition project was fairly launched.' 128

Hughes claimed that as a result of these new conditions he was able to convene a meeting in November 1850. The movement had then snowballed. A memorial was drawn up in Manchester and further meetings were held in Blackburn, Bradford and Halifax.¹²⁹ There is additional evidence that the Patent Committee of Birmingham was inspired by the events leading up to the Great Exhibition.¹³⁰

Other committees for patent reform - according to Webster there were eleven such committees by 1852¹³¹ - also sprang up in the few years, 1849-1851.

Within the Society of Arts, the body directly involved with the Great Exhibition, increased momentum was also given to the campaign to reform the

patent system. The Society of Arts, since its revitalization in the 1840's, (when after its long period of decline it had increased its membership primarily by drawing on newly prosperous members of the middle class¹³²) had changed its approach towards the control of new technology. It had abandoned its traditional opposition to patents which dated from the 18th century.¹³³ In 1850 the aggressive new president of the Society, Henry Cole, explained the new approach:

'The time is gone by when it was desirable to hold out small rewards for little inventions, because there are now so many other and better modes in which all inventions of real practical value, are published and rewarded. There are other enquiries, which though of the greatest importance, bring no profit or reward to those who carry them out, the benefit which they yield being shared by the whole community. The exposure of unfair monopolies, and the collection of authentic facts and evidence showing the evil effects of legal or commercial edicts upon manufacturers or trade are services of this sort.' ¹³⁴

In September 1850 (by which time the organization of the Great Exhibition was well under way) the Council of the Society of Arts, at Cole's instigation, appointed a special committee to 'promote the legislative recognition of the rights of inventors'.¹³⁵ By this time Cole had already begun work on a treatise on the reform of the patent system. Cole sent a proof of it to the author, Charles Dickens. Dickens was impressed. He replied to Cole:

'I shall be happy to "join the Union" and I am now at work on a paper for "Household Words", which I hope may help the question in a taking manner.' ¹³⁶

Accordingly, Dickens joined the committee which, it must be noted, failed to include any patent agents or barristers.¹³⁷

On October 19th 1850 Dickens published a fable entitled 'A poor man's tale of a patent'.¹³⁸ The story closely followed Cole's description of the '35 stages' through which a patent had to pass before it was granted. It was cast in the form of a dialogue between a Chartist and a working inventor. The Chartist tries to convince the working man of the inequity of the various offices through which a patent application had to pass. The working man is unconvinced and sets out to apply in person for a patent for his invention. As a result of his experiences he changes his mind and comes to the conclusion that:

'if the laws of this country were honest as they ought to be, you would have come to London - registered an exact description and drawing of your invention - paid half-a-crown or so for doing it - and therein and thereby have got your patent.

... Further. In William Butcher's [the Chartist] delivering, "that the whole gang of Hanapers and Chaff-Waxes must be done away with, and that England has been chaffed and waxed sufficient." I agree.' 139

The moral of the fable was pointed. It was of great propaganda value and frequently quoted.¹⁴⁰ It hinted by its reference to Chartism at working class dissatisfaction which needed to be allayed by reform.

In December 1850 the first report of the Society of Art's Committee on the Legislative Recognition of the Rights of Inventors was published.¹⁴¹ As its name suggests it claimed that inventors were entitled to rights rather than privileges from the Crown. These rights the Report claimed, were natural rights:

'To assert that a man is not entitled to reap any advantage from his labour and skill, developed in every way not inconsistent with the good of the commonwealth, would be to advocate an anarchy that would sap the foundations of the rights of all property whatever.' 142

After a detailed indictment of the shortcomings of the existing system, the Report argued that

'it is hopeless to effect amendments of the present system of obtaining Patents.... Whilst the whole superstructure rests upon the fallacy that inventive rights are boons to be granted or withheld, and not rights of intellectual labour, it is idle to attempt to amend the details of the system.' 143

The Report noted that the Exhibition of 1851 had rendered the discussion of the question inevitable. It argued that the registration of designs had been successful and suggested that a similar system of registration be instituted for inventions. The existing system was to be abolished completely.¹⁴⁴

(ii) Administrative reform. If part of the reason for middle class interest in patent reform lay in a renewed realization of the importance of technological innovation, a complementary part was to be found in the continuing movement for administrative reform in general. From 1848 onwards Financial and Administrative Reform Associations were set

up all over Britain.¹⁴⁵ They denied any link with political parties but set themselves simple goals congruent with middle class ideals.

- '1st To use all lawful and constitutional means of inducing the most rigid economy in the expenditure of the Government, consistent with due efficiency in the several departments in the public service.
- 2nd To advocate the adoption of a simple and equitable system of direct taxation, fairly levied upon property and income in lieu of the present unequal, complicated and expensively-collected duties upon commodities.' 146

These goals could easily be combined with middle class concern over the means of controlling new technology. The slogan which claimed that the unreformed patent system represented a 'tax on knowledge' provided just such a link. A pamphlet issued in 1849 by the Liverpool Financial Reform Association contained both proposals for the protection and encouragement of inventions and a plea for a relief from tax. These were combined with a stinging attack on the patronage of the old order:

'There does not appear therefore to be sufficient reason for laying a special tax upon this industrious class [inventors] , merely because they are desirous of reaping some personal advantage from their own labours; and still less rational does it seem that this tax should be paid before they are enabled to apply their discoveries to the public service; more especially as a large portion of the sum is not made available for any public purpose whatever. The system at present pursued in granting patents is founded solely upon precedent of immemorial usage, and as the custom of the country has hitherto been to create sinecure offices wherever it was possible, so that the Government of the day might thrust their relatives and friends therein, the department which undertakes the conservation of the inventor's rights has received a fair share of these burdens.' 147

Organized middle class pressure outside the civil service was not the only dynamic force for administrative reform. The reform of the civil service as a whole was an uneven process and as some parts were transformed, increased pressure was brought to bear on 'traditional' sectors of the administration.¹⁴⁸ In the sphere of patent law reform the most influential step proved to be the appointment by the Treasury in 1848 of a little heralded committee to enquire into 'the circumstances connected with the offices of the clerks of the Signet and the Lord Privy Seal'¹⁴⁹, i.e. the offices through which patents had to be passed since the time of Henry VIII.¹⁵⁰

The finding of this Committee - that the Signet Office be abolished and the role of the Privy Seal be curtailed substantially in order to increase efficiency in the granting of patents - was, as outlined below, to be a significant factor in this phase of reform.

(iii) The early abolitionists. Given the general rise to power of the middle class by 1850 and the specific involvement of the entrepreneurial middle class in the issues of control of new technology and administrative reform one might have expected that the reformed patent system would, after 1852, reflect universally accepted middle class ideals. Paradoxically the change that took place in 1852 cannot be described in this way, for, at the very height of middle class influence, middle class ideology ceased to embrace one coherent vision of how new technology ought to be controlled and exploited. Parties who agreed on the importance of technological innovation and of administrative reform, and who combined to bring the issue of patent law reform to a head, suddenly found that the solutions which they proposed, arrived at diametrically opposite conclusions. In short - the successful struggle for patent reform coincided with the start of a battle between the defenders of an 'efficient' patent system and those who wished for its total abolition.

A key factor in the split between members of the entrepreneurial middle class who favoured abolition and their opponents from a similar background who favoured retention of the system, was the ideological ambiguity about how technology should be exploited in the ideal social order. The fact that the classical economists had all suggested state intervention as a method of ensuring that technology be made exploitable in the market place did not mean that they had consciously 'solved' the problem of how technology could be exploited in a free market economy. It simply showed that the classical economists shared, in this sphere, an implicit notion of the function of the state.

In the 1840's an increasingly confident fraction of the entrepreneurial middle class began to challenge the classical economists' sophisticated and often ambiguous notions of where the state ideally should intervene. Encouraged by the political victory of the abolition of the Corn Laws in the name of the doctrine of free trade they began to attempt to apply the idea of deliberate non-intervention by the state (laissez-faire) to a wide range of social and cultural issues. In the Journal, The Economist (established

1843) they found a champion for whom the concept of laissez-faire was the touchstone of all government policy.¹⁵¹

On 28 December 1850 The Economist published the first of a series of articles on the patent system. Like other publications aimed at a middle class audience it claimed that it too was considering the question because of the manifest inefficiency of the existing system and because of the issues raised by the forthcoming Exhibition.¹⁵² In particular it directed itself to the claims of the Society of Arts that inventors had a natural property right in inventions. The Economist's entry into the debate on this issue was in accordance with the general approach it adopted, for, as Gordon has pointed out, it adopted a natural law view of property rather than the 'artificial rights theory identified with the names of Bentham and Brougham'.¹⁵³

In contrast to the supporters of any system of state intervention based on property rights in inventions (be they property rights of a 'natural' or 'artificial' kind), it flatly rejected the notion that property rights could be extended to include ideas or inventions. It did not deny that property was connected with labour but argued that it only existed as a combination of labour and materials. 'All conceptions of the mind', The Economist continued, are not the result of labour or thought but are spontaneous.' Inventors ought to give up all ideas they inherited from others before they claim a monopoly.

'That is impossible, and the impossibility shows that their minds and their inventions are, in fact, parts of the great mental whole of society, and that they have no right of property in their inventions, except that they can keep them to themselves if they please, and own all the material objects in which they may realise their mental conceptions.' 154

The state should therefore not intervene on grounds of natural law principle. It should also not intervene, The Economist argued, for utilitarian reasons. Few people, it contended, really conceal inventions and given the fact that inventions were derived from a stock of common knowledge, other inventors were sure to arrive at the same conclusions. In a further editorial in 1851, The Economist argued explicitly that in the sphere of knowledge as in the sphere of material wealth, progress would take place by means of natural evolution. It concluded:

'The progress of knowledge, and the progress of invention and discovery, like the progress of population and the progress of society, have their ordained and settled course, which cannot be hastened, though perhaps it may be retarded, by Patent Laws.' 155

The views of The Economist on state protection for the rights of inventors were therefore totally opposed to those voiced by the Society of Arts, although they proceeded from surprisingly similar ideological positions. For, as has been seen, both arguments favoured natural property rights and cheap and efficient government. At this phase of the reform movements the abolitionist argument represented only an 'intellectual' alternative to the problem of how new technology should be controlled within the parameters of middle class ideology. These ideas were adopted by individual witnesses to the Select Committee on the Patent Law Amendment Bill but there was as yet no sign of a concerted campaign or organized association attempting to convert the middle class as a whole to the ideal of freedom to use all technological knowledge without restraint.

B. Patent experts

(i) Patent experts and their relationship to the middle class.

Increased middle class involvement in the control of new technology challenged patent experts to justify the continued existence of their profession. At the same time it provided an opportunity for them to expand the power of their profession.

Patent experts were able to neutralize the threat to their professional existence implied in some of the proposals for change by becoming actively involved in the reform movement and guiding it in a direction which would not be harmful to them. Thus Campin, Hughes, Robertson and Webster all served on various new bodies set up to campaign for reform.¹⁵⁶ With the exception of the Committee of the Society of Arts no evidence has been found of any group actively involved in the reform movement which failed to include a patent agent or a patent barrister among its members. One can only speculate about the precise degree of their influence on these committees but indications are that it was substantial. Thus, for instance, the National Patent Law Amendment Association wrote in its prospectus that it considered that government support for its proposals for reform could best be obtained if it followed the plans of the government Committee of Enquiry into the Signet and Privy Seal Offices in the modified form,

'for which they [the association] are chiefly indebted to the suggestions published in the Mining Journal and Chronicle by Mr Campin [the patent agent] whose familiarity with the law and practice relating to the patents and efforts for their amendment are favourably known to that portion of the public acquainted with the history of Patent Law Reform'. 57

Patent reform was also expounded within the framework of the body of knowledge of patent experts. Almost all the barristers who had previously published works on substantive patent law published proposals for reform in the period 1850 to 1852. They included the authors of the best known textbooks on the subjects such as Godson, Webster and Hindmarch¹⁵⁸ and also little known figures such as Drewry, Lund and Turner.¹⁵⁹

With the notable exception of William Carpmael who as Moses Poole's partner, remained strongly committed to the old order, there is no evidence of any patent expert being totally opposed to reform.¹⁶⁰ This does not mean that they agreed on precisely what shape a reformed patent system should take,¹⁶¹ but it does indicate a common thread in the ideas of the patent experts. That they were opposed to the abolitionists goes almost without saying, for a total abolition of all forms of state intervention in the control of new technology would have destroyed their occupational raison d'être. It is perhaps more surprising to find hostility from patent experts towards the proposals of the Society of Arts which, after all, were strongly in favour of the retention of a system of state intervention in the control of inventions.¹⁶²

The different primary justifications for the defence of some system of state intervention was a factor in this hostility. It must immediately be stressed that these alternative justifications did not mean that there was a total separation between the ideology of patent experts and their clients. For, as has been explained, there were large areas of shared common sense between the ideals of the professional middle class and the ideals of their entrepreneurial associates. Patent experts had profited by the general increase in the power and influence of the middle class as a whole which had taken place since the 1830's. They also accepted middle class notions of the importance of technology and of administrative efficacy. Yet during the same period, the patent experts' commitment to the professional ideal of power to define and control their area of occupational expertise had increased. As a result they saw themselves as having a unique insight into how inventions ought to be practically and efficiently protected. They therefore rejected the concept of natural property rights which attempted to shape the law according to abstract notions rather than by adhering to the existing system which, their professional experience had led them to believe, could be reformed.

To some extent therefore the utilitarian conceptions held by the patent experts were opposed to natural rights arguments - not only those of the abolitionists but also those of the Society of Arts. This was illustrated by the attacks on the proposals of the Society of Arts. Thus the Mechanics' Magazine completely rejected the ideas of 'innate rights' and wrote that the 'more obvious' objections to the Society of Arts' proposals were:

'First. (It is without precedent or example in the jurisprudence of this or any other country in the civilized world.

Second. It rests on no evidence whatever of probable utility.' 163

Ideological differences between patent experts, whose ideas were dominated by ideals of utility, and entrepreneur/inventors who favoured natural property rights, should not be seen as the crucial factor in shaping the Patent Law Amendment Act of 1852. Even on the specific issue of justifying the patent system the parties were not in a state of total ideological opposition. As in earlier (and indeed later) periods concepts of property in inventions were used loosely and rhetorically, without defining whether the property was 'natural or 'utilitarian'. The concepts of 'property' and 'efficiency' continued to be used by patent experts, as if they had the same meaning as in the ideology of the entrepreneurs. The result was that patent experts continued to campaign within the ideological and social parameters of the middle class as a whole.

The degree of this overlap is demonstrated by the fact that patent experts projected themselves as supporters of the idea of cheap and efficient government put forward by the Administrative Reform Associations. Patent experts argued that it was the Society of Arts that favoured unnecessary expenditure. Thus Robertson in the Mechanics' Magazine, pointed out that the new post of Registrar of Inventions, suggested by the Committee, would create an 'intended-to-be-handsomely-paid-office', whilst the new procedure which the registrar would set up, would, 'for anything the Committee know or can tell', be just as bad or worse than the existing procedure.¹⁶⁴ In a reply to a letter defending the Society of Arts' proposals, Robertson repeated his charges:

'We have dared to impute a spirit of jobbery to them! Yes; and this most advisedly. The Great Exhibition is acknowledged by all men to be a job - capially managed and eminently popular, but still a most literal job. The Society's scheme for the overthrow (not the reform) of the Patent Laws arose out of that job, ... and has also been made a job of in its way.'

Robertson concluded by describing the proposal as

'ending in a set of resolutions good for nothing, but smacking most significantly throughout of posts and appointments.' 165

(ii) Patent experts and the process of reform. In order to counter the potential threat presented by a new bureaucracy in which they might not have clearly defined roles, patent experts, even though generally committed to reform, had to preserve some parts of the old system. In particular, they had to protect the legal base of their professional skills in defining units of technology, from the challenge of a new set of definitions which new bureaucrats might create. For this reason, the place of the courts in the system had to be substantially preserved, as they applied the same intellectual tools to the process of definition as did the patent experts. If changes in the administration meant that some decisions on the substantive validity of patents were made by officials, these officials should apply the same criteria as the courts. Only if this were the case could the patent experts assume that their skills would be needed in a reformed system of defining inventions. An analysis of the various events which preceded the 1852 Act shows how successfully patent experts were able to create a framework of debate of their choice. In this framework the possibilities for reform were limited in such a way that the final product preserved and even extended the conditions under which they could fulfil their professional ideal.

(a) Their first and most important success was in their influence on the 1848 Treasury Committee on the Signet and Privy Seal Offices. As noted above, this Committee accepted the proposals of patent experts for the reform of the existing bureaucracy. It rejected the evidence of the witnesses who were administrators of the unreformed system and who had argued that the various steps were necessary for reasons of constitutional ritual. The rejection of their evidence was an important blow to the system of patronage, for it meant that a more 'progressive' section of the civil service (the Treasury Committee) had added its voice to the condemnation of the unreformed administration. Since it came from within it was particularly important, for it contributed to the final breakdown of the power of the old order to present the traditional administration as an essential and 'constitutional' part of the state.

Of direct consequence for future change was the ability of the experts to persuade the Committee that their utilitarian objectives could best be

achieved by doing away with many of the traditional, ritual forms of the process of granting patents, yet, at the same time, preserving the functions of the Attorney-General and Solicitor-General in the system. As was explained in the discussion of the caveat procedure above, the decisions of the Attorney-General and Solicitor-General represented the only instance in the process of granting patents where decisions were made on largely substantive rather than formal legal grounds. The Attorney General and Solicitor-General were legally trained and the decision that their role in the system ought to be maintained, meant that the Committee accepted the evidence of patent experts who had suggested that a legal element should be kept in the system.¹⁶⁶ This bias in favour of the body of legal knowledge was directly reflected in the findings of the Committee for it reported that the inquiry, before the Attorney- or Solicitor-General on questions of priority would appear, for the most part, to involve considerations of a legal rather than a scientific nature.¹⁶⁷ The Report went on to argue that assessors exclusively trained in technology need only occasionally be introduced into the process, and then at a subordinate level to the legally trained.

The domination of the findings of this Committee by patent experts was complete. Not only was the evidence of the traditional administrators rejected, but (with the exception of Bennet Woodcroft) there was no evidence from entrepreneurs or inventors who were primarily interested in the exploitation of their own inventions. Therefore, the only version of the possibilities for reform came from the patent experts. Their strategic professional position had led to them initially being accepted by the Committee as the only witnesses with the necessary expertise. Patent experts were thus able to ensure that their version of how the patent system ought to be changed, formed the basis of later debates throughout the second phase of legislative reform.

(b) Early in 1851 a Select Committee of the House of Lords was set up to consider how the provisions of the Designs Amendment Act 1850, passed to protect exhibits at the Great Exhibition, could be extended to patentable inventions which were also to be exhibited there.¹⁶⁸ Although the Committee was set up with specific reference to the Great Exhibition it excluded the organizers of that event. The majority of witnesses were patent experts, the only exceptions being Bennett Woodcroft and a civil engineer, Charles May. Patent law and patent law reform were, as before the 1848 Committee, discussed in the most general terms. Webster explained that:

'after hearing evidence on the probable operation of registration of inventions generally, according to the system for the registration of designs [the Lords changed their proposals] so as to keep distinct from each other the two methods of acquiring and protecting property in designs and inventions'. 169

The Bill which embodied the new proposals, passed into law as the Protection of Inventions Act 1851.¹⁷⁰ In offering protection for inventions shown at the 1851 Exhibition the Act introduced several procedural innovations. It showed how flexible patent experts could be in their proposals for reform, if their occupational basis was not being threatened. Most importantly it introduced a system of provisional specifications.¹⁷¹ This meant that if an inventor gained a certificate that he had adequately described an invention in broad outline, he would be entitled to a limited protection which allowed him to exhibit or publish his invention for a period of six months without losing his right to a full patent in the process. Although the granting of the certificate required an administrative decision similar to the registration of designs, the possibility of the creation of a threatening bureaucracy was limited by placing the decision in the hands of the Attorney-General. He was however, allowed to rely on scientific advisers.¹⁷²

Provisional protection was granted from the day of application, thus for the first time eliminating the possibility of leaks which had always been present under the unreformed patent system which dated the patent from the day the process of granting had been completed. This afforded a precedent for the principle that the legal right should date from the day of the application in the case of all patent grants.

The provisional protection granted by the Protection of Inventions Act proved popular and in slightly less than six months from its passing until the end of the Exhibition, application for provisional protection was made in 691 cases and granted in 614 cases.¹⁷³ This compares to a total of 455 patents granted throughout the whole of 1851.¹⁷⁴

Not surprisingly the Protection of Inventions Act proved to be influential. Much attention was paid to it in evidence to the 1851 Select Committee of the House of Lords on the Patent Law Amendment Bill.¹⁷⁵

(c) This third and final parliamentary Committee of Inquiry of the second phase of the reform movement heard much more evidence and was more widely publicised than its two predecessors. The witnesses were not dominated by patent experts

in terms of numbers. Indeed, their evidence reflected a wide range of opinions. The 33 witnesses included at least seven who expressed doubt as to whether any system of monopoly protection for inventions should exist at all.¹⁷⁶ The remaining witnesses favoured the retention of a system of rewarding inventors by limited monopolies, but their opinions varied: from those of Henry Cole who, representing the Society of Arts, asked for an inventor to be automatically entitled to patents in using a cheap and simple system of registration; to those of William Carpmael who was prepared to defend the intricacies and costs of the unreformed system.¹⁷⁷ With the exception of Carpmael, all the witnesses suggested some form of change: with the manufacturers, engineers and inventors generally favouring more radical change than the patent experts.

The 1851 Committee of Enquiry heard many complaints of shortcomings and diverse suggestions for solutions. However, the course of action it should follow had been largely determined by its brief and judicially by the Committees which had preceded it. For although lengthy evidence was heard on all aspects of the system of protecting inventions, the actual task of the Committee was to discuss two reform Bills which had been introduced by Lord Brougham, as a private member, and Lord Granville, on behalf of the government.¹⁷⁸

The Bill submitted by the government was based, to a large extent, on the proposals of the earlier two Committees of Enquiry. It provided for the abolition of the offices filled by patronage but for the retention of the role of the Attorney-General and Solicitor-General as suggested by the report of the 1848 Committee. It also made provision for a system of provisional registration as suggested by the example of the 1851 Protection of Inventions Act. Most of the provisions of the government Bill, including clauses dealing with these key issues, were retained in the consolidated Bill, produced by the 1851 Committee on the Patent Law Amendment Bill.

By this time patent experts had the ability to influence the government of the day directly. The extent of this influence was apparent from the speech which Lord Granville delivered when he introduced the consolidated Bill in the House of Lords. After outlining the Bill's provisions, he admitted that he personally favoured the abolition of patents and quoted the evidence of six witnesses who supported his arguments. Nevertheless, he felt that public opinion demanded reform of the system rather than its abolition.

Lord Granville was thus bowing to what he saw as the general influence of reformist opinion. He was not, however, accepting the proposals of those who wanted radical reform, for earlier in his speech he had categorically rejected the validity of evidence based on the notion of 'absolute innate rights of property in ideas'.¹⁷⁹ Instead he accepted the findings of the Committee and therefore by implication, the more limited reform proposals of the patent experts. Direct evidence of influence by patent experts is to be found in the conclusion of Lord Granville's speech in which he thanked Webster, the leading patent expert of the day, whom he described as

'a barrister in great practice, who attended [the] meetings [of the Committee] constantly, and aided them by his valuable suggestions'.¹⁸⁰

C. Parliamentary manoeuvres

Notwithstanding the expertise of Webster's draughtsmanship, the passage into law of the consolidated Bill produced by the 1851 Committee was relatively stormy. In the House of Commons the Bill was discussed in great detail and abolitionists such as J L Ricardo made a determined effort to delay the Bill by attacking each clause from the philosophic basis that patents as a whole ought to be abolished.¹⁸¹ These tactics succeeded in delaying the Bill beyond the 1851 session, for on the last day of that session it was returned to the House of Lords from the House of Commons, and they refused to pass it on the grounds that they did not have adequate time to consider the amendments of the House of Commons.¹⁸² In 1852 the Bill, substantially unchanged, was reintroduced by a new government.¹⁸³ Like its predecessor it was strenuously opposed in the House of Commons when it was debated in Committee.¹⁸⁴

The extended opposition to the Bills is open to divergent interpretations. Some contemporaries, such as Hughes, have suggested that the delays were the result of attempts to defend the old system of patronage.¹⁸⁵ There is little support for this suggestion in the arguments used in the debates, though the tactics of delay were similar to those which had been used in the 1830's.

More influential seems to have been the intervention by groups (fractions of entrepreneurial capital) whose special interests were threatened by specific amendments to the existing patent system. One issue which involved special interests was whether British patents should continue to be extended to the

Colonies. The consolidated Bill introduced in the House of Lords in 1851 had proposed to drop the Colonies from British patents so that British sugar refiners in the West Indies could compete with planters in Cuba or Brazil.¹⁸⁶ This aroused great opposition from refiners in Britain - some of whom, such as Farrie and Macfie had testified to the 1851 Committee that they favoured the total abolition of patents. On this issue, however, they campaigned not for the abolition but for the retention of the status quo of patents in both Britain and the Colonies in order, so they argued, to enable British refiners to compete with those in the West Indies.¹⁸⁷ In the long debate on this clause in the House of Commons their cause was championed by the abolitionists who, in this case, were able to exploit a specific issue in order to increase their limited influence.¹⁸⁸ They succeeded in defeating the clause in 1851 and thus delayed and restricted the government's proposed reforms. In 1852, however, a clause removing the Colonies from the scope of British patent law was successfully reintroduced.¹⁸⁹

Only with one issue did the abolitionists achieve any notable success. Webster had proposed that a board of scientifically trained examiners be set up, under the supervision of the Attorney- and Solicitor-General, to make preliminary examinations of provisional specifications. The introduction of such examiners was supported by the House of Lords in 1851 and 1852. In 1851 it had been overwhelmingly accepted after some debate in Committee in the House of Commons.¹⁹⁰ In 1852, however, the clause was struck out by the House of Commons and clauses referring the provisional specifications directly to the law officers were substituted. No opposition was offered to this change by the reformers, because, as Webster explained,

'the imminent danger which impended of the Bill being again defeated by want of time rendered it inexpedient that anything should be done which might occasion delay'.¹⁹¹

Those who favoured unfettered natural rights to property in invention also tried to shape the law. Thus it was proposed that patent infringements be made a criminal offence punishable by imprisonment for not more than twelve months with hard labour.¹⁹² The proposed amendment was dismissed out of hand by the Chancellor of the Exchequer who 'trusted that the house would not sanction for a moment a proposition which would inflict upon any ingenious person who might violate the law by any manufacture, a punishment of so savage and almost as sanguinary a character...'.¹⁹³ Nevertheless, it

indicates a certain militancy on the part of supporters of the rights of inventors who were opposed to the compromise proposals of the patent experts.

With the exception of the limitation on the administrative efficiency of the new system by the exclusion of examiners, the power of the remnants of the old order, the groups with special interests and the 'philosophically convinced' abolitionists, was too limited to exert any major influence. The second phase of the reform movement culminated in the passing of the Patent Law Amendment Act 1852¹⁹⁴ which embodied most of the provisions of the consolidated Bill drafted by Webster in 1851.

D. Reforms of the second phase

The most obvious immediate change introduced by the 1852 Act was that the necessity for a patent of invention to pass through the various offices of patronage was eliminated. As a result the actual issuing of letters patent could be cheaply and quickly performed by administrators who had no discretionary power.

Reforms which affected patent grants were all brought about by 'procedural' changes. The substantial legal definitions of what could be the subject of a patent and the tests of novelty and utility evolved by the courts were left unchanged. There were seven major innovations:

- (i) Patents were granted, as in the case of designs or provisional specifications registered for the General Exhibition, from the day of application.¹⁹⁵
- (ii) One patent granted in London was valid throughout Britain but not in the Colonies.¹⁹⁶
- (iii) Costs were made more moderate and provision was made for increasing periodical payments.¹⁹⁷
- (iv) All restrictions on partnership agreements were lifted.¹⁹⁸
- (v) Only one invention could be included in a patent.¹⁹⁹
- (vi) Patent applications had to be accompanied by a provisional or by a complete specification. If the description in the provisional specification met the standards laid down in the Act a certificate was granted by the Patent Commissioners which entitled the patentee to limited protection, similar to that provided by the Protection of Inventions Act, to exhibit or use the patented article himself. A

complete specification had to be provided before the end of this period in order to make the protection permanent.²⁰⁰

- (vii) Opposition hearings were reorganised. A written statement of complaint was required. The law officer did not, as under the old caveat procedure, merely weigh the opposing claims but attempted instead to decide who the first inventor was. This meant that an application for a patent could no longer be defeated by a party who had fraudulently learnt the secret of the applicant's invention.²⁰¹

The last three reforms required the administration to decide on whether a patent complied with the requirements of the law. A separate, new bureaucracy was not set up to make these decisions. They were to be made by the Commissioners of Patents under whose control the patent system had been placed. The Commissioners were, for all practical purposes, the Lord Chancellor, the Master of the Rolls, and the Attorney-General and Solicitor-General of England.²⁰² They only had powers to delegate routine administrative matters to a centralised Patent Office. This meant that all decisions involving an exercise of discretion within the administration were to be made by four of the busiest and most important politicians directly involved in the legal system. Their assumption of key roles in the administration of the patent system meant a continuation of the bias toward dependence on accumulated legal knowledge in decision-making but also that thorough investigations into whether specifications met legal requirements were practically impossible. The result was that, although the administration of patents was extensively 'rationalised' by the virtual elimination of the early modern bureaucracy, the new administration did not, even if the criteria which it applied were 'formally rational', structure the making of decisions in the most efficient possible way.

Some other administrative innovations, although not controversial at their inception, were to be of importance. The arrangements for consulting specifications were streamlined and Bennett Woodcroft, a former professor of mechanical engineering was appointed to the post of Superintendent of Specifications. He was required to publish all incoming specifications and also to collect and reprint all previous specifications.²⁰³ The possibility was thus opened for an accessible store of technological knowledge to be set up within the patent bureaucracy itself. This information created the potential for the making of rational 'scientific' decisions within the confines of the patent administration. Another change was that provision

was made for the commissioners to publish annual reports.²⁰⁴ Here too the foundation was laid for the regular production of information about the patent bureaucracy which could be used to modify and to extend its activities.

VI. Reform - summary and conclusions

As the result of the reforms which culminated in 1852 the administration of patents became (in the Weberian sense) a 'formally rational' bureaucracy.²⁰⁵ The legal content of patents, although reformed in case law and by textbooks, remained substantially unchanged in the form in which it had been cast at the end of the 18th century. In the conclusion to Chapter 3 (above) it was argued that the change in patent law, which allowed units of new technology to be treated as commodities as a result of the intervention by the state, had, because of structural constraints on change, not been complemented by an administrative structure which allowed this intervention to be effected cheaply and efficiently. In the 19th century these structural conditions changed and reform of what was a mercantilist 'early modern' institution took place. The state was now able to delineate units of new technology more swiftly and more cheaply than in the past.

In terms of 'grand theory' these changes can be understood in Holloway and Picciotto's terms, as the liberal state maximising the efficiency of the intervention 'necessary' to ensure the operation of laissez-faire capitalism in the sphere of new technology.²⁰⁶ They can also be understood, in Weberian terms, as the extension to patent administration of the formally rational bureaucracy typical of modern Western societies.²⁰⁷ Efficiency and rationality were increased in this period but the social processes which led to the change were more complex than overarching theoretical constructs would suggest. Grand theory would not be able to account directly for the gradual development of the complex reform movement nor for the specific changes which did not, in all instances, maximise efficiency.

It has been argued in this chapter (and in the preceding chapter) that the possibility of reform was created by the gradual eclipse of the old order, particularly by the rise of the entrepreneurial middle class. The relative hegemonic dominance of this class created (in Dicey's terms) a 'climate of public opinion' conducive to reform of the patent system.²⁰⁸ The specific reforms of the system of legal intervention in the control of new technology were not the direct product of public opinion - which as has been seen, was not entirely unambiguous on this subject. It depended instead on the exercise

of power, both directly and indirectly, within the changed social and ideological framework by the patent experts, who, because of their strategic social position (outlined in Chapter 4 above) were able to channel and control the movement towards reform.

For the patent experts the reforms of 1852 were a triumph. They meant that they had been emancipated from the disadvantages of working within, and being dependent upon, a system where officials who were the creatures of patronage, demanded gratuities and granted favours. The preservation of a strong legal element ensured that the professional skill of patent experts would remain important in the delineation and defence of units of new technology.

Patent experts even contrived to profit by the amendments which they had been forced to concede in the course of the passage of the 1852 Act. Thus Webster, writing shortly after its passage, could shift all blame for future shortcomings on to the obstructive abolitionists. Commenting on the decision not to appoint permanent scientifically trained examiners he remarked:

'If inventors, relying on the certifies which have been given should be grievously disappointed in the result, it must not be laid to the new system but to those who deprived that system of this great safeguard and of the means of correcting evils and of relinquishing duties which the experience of all law officers had led them to wish to entrust to other persons.' 209

The reforms of 1852 were not a 'final solution' to the problem of the control of new technology. They were contrary to the objectives of the fractions of the middle class who had supported the 'radical' solutions of unfettered property rights in new technology on the one hand and the total abolition of such rights on the other. The reforms of 1852 did however, entrench the patent system as the form of state intervention in the control of new technology. For this reason they were to be valuable to patent experts in the defence of the patent system in the ensuing two decades.

CHAPTER 6 - THE DEFENCE OF THE PATENT SYSTEM 1853-1872

I. Introduction

During the two decades following the Great Exhibition and the amendment of the Patent Laws the general economic and social conditions which had contributed to these developments continued. The overall performance of the British economy was good: the period 1850 to 1873 has often been referred to as the 'Great Victorian Boom'. However, the economic historian, R A Church, in his book of the same title suggests that to speak of a 'boom' is an oversimplification and that, while the 'rate of economic growth achieved its nineteenth-century maximum', the period as a whole was not significantly different from what preceded it.¹

New technology continued to be developed throughout the 1850's and 1860's. Technological expertise became an increasingly important factor in industrial production.² Foreign competition was increasing but Britain was still holding its own in the industrial sphere and industrialists remained confident of continuing to do so. In the words of A E Musson:

'Britain's predominance had been well maintained in the third quarter of the nineteenth century, an era of "Victorian prosperity", and there was further rapid growth in the iron and steel, textiles, coal and shipbuilding industries, in which Britain continued to produce as much as, or more than, the whole of the rest of the world. Railway building at home and overseas continued to provide a stimulus to iron and engineering, at the same time reducing transport costs and widening markets. Business optimism was also inspired by rising prices, following the gold discoveries in California and Australia, while commercial expansion was encouraged by the final adoption of Free Trade. For a time it seemed that the Cobdenite vision of international economic liberalism would be fulfilled, following the Anglo-French commercial treaty of 1860 and other trade agreements, lowering tariff barriers. Britain had become the "workshop of the world", her exports massively increasing, and progress seemed unbounded: between 1850 and 1873 total United Kingdom domestic exports rose from £71.4 million to £255.2 million (current values).' (3)

At the level of accepted common sense what Perkin termed the 'entrepreneurial ideal' remained hegemonically dominant.⁴ This ideal or 'common sense' contained notions in favour of free trade and encompassed a broad distaste for 'large' and 'inefficient' government. In a very general way it reflected the ascendancy of an entrepreneurial middle class which had managed to establish a measure of

hegemonic dominance over both the old aristocracy and over large sections of the working class.

The specific application of the ideal was not always clear. In a previous chapter the tensions in the work of the classical economists, the ideologues of this dominant class, were considered. The classical economists had been unable to decide whether they supported a natural or an artificial harmony of interests. For them this question had been somewhat abstract and 'intellectual' but, as time went on, the dominant class became divided on the role of the state in specific social and economic areas. All agreed that if there were to be state intervention in a particular area it ought to be efficient, but this did not answer the question about whether there should be intervention at all.

After 1850 the debate became more directly linked to practical issues of the shaping of specific legal and administrative organs. There was a growing identification of different fractions in the dominant class with specific positions in the debate. Thus, on the one hand increasingly confident entrepreneurs came to demand that the entrepreneurial ideal be carried to its 'logical conclusion' of total free trade and a laissez-faire government which intervened as seldom as possible in the sphere of social welfare and not at all in the economic sphere.⁵ On the other hand, the period also saw the rise of increasingly well established 'professionals' both within the civil service and outside it. Although, in general, they closely identified with the entrepreneurial ideal, these professionals claimed that they had specific skills which had to be applied in order to maintain a rational ordered society. This is not to suggest that on any particular issue a dichotomy would necessarily be found. For example, entrepreneurs in different fields - different fractions of entrepreneurial capital - might have different interests. Some might therefore back state intervention on an issue while others would attempt to prevent it. The important point, however, is that the dominant common sense was not given the same interpretation by all its supporters.

The limited reforms to the patent system brought about by the Act of 1852 had been a victory for those who demanded 'rational' intervention by the state in order to preserve an ordered society. It had led to simplified, cheaper procedures which in turn brought about a sharp increase in the number of patents granted.⁶ It had also led to the bureaucracy of the Patent Office becoming directly involved in the expansion of technological knowledge by way

of the systematic publication of patent specifications and their distribution to public libraries.⁷ Previously this function had only been sporadically fulfilled by private entrepreneurs.⁸ After 1852 it was officially done by the state - and widely praised.⁹

In spite of these 'advances' which rationalised the operation of the patent system, the system as a whole was not accepted as a common-sense, necessary part of the state apparatus. The reason for this failure of the post-1852 patent system to gain universal acceptance must be sought in the rise of an abolitionist movement. It attempted to turn the increasingly confident espousals of the entrepreneurial ideal into a specific ideology which would unite support for the total abolition of the system of patents as the primary form of state intervention in the control of new technology. It was against this movement that the patent system was to be defended. And it was in the course of this defence that the patent system was to be presented in such a way that the change in its status from that of an instrument of policy to that of the common-sense mode of dealing with new technology would finally be confirmed.

II. The Abolitionist movement and its ideology

In the struggle surrounding the reform of the patent system which climaxed in the 1852 legislation, abolition had been presented primarily as an 'intellectual' alternative to the existing system. After 1852 the abolitionist movement grew into a major campaign which sought to redefine common-sense attitudes to the relationship between law and the state on the one hand and technology on the other.

An analysis of the utterances of those who supported the abolition of patents shows that there are certain themes which consistently reappear. In order to draw out the links between these themes which make up the specific ideology of the abolitionists and the general common sense of the period detailed analysis is required.

A. Free Trade: The abolitionists stressed their commitment to a laissez-faire policy of free trade in its most extreme form. An absence of all state-imposed restraints was presented as the basis from which to proceed to consider the question. Thus Professor Rogers introduced his address in favour of the abolition of patents to the Royal Statistical Society in 1863 by arguing that though a limitation on individual freedom might be necessary,

it should be distinctly and continuously proved to be desirable:¹⁰ It ought, he contended, to be tested against 'that principle of freedom which underlies all economic reasonings, and is the basis of all material prosperity'.¹¹ In an editorial in August 1864 The Times adopted a similar stance:

'It is, in fact, a departure from the ordinary principle of non-interference in trade, to volunteer to create an exclusive right; and the burden of showing that this exception to the general rule is expedient rests upon the upholders of Patents.' ¹²

B. Property: Since the abolitionists on their own account were opposed to one type of 'exclusive right' they found it necessary to affirm their unquestioning acceptance of another exclusive right which was universally accepted, the right to property. The way in which they did this was to affirm their support for, or faith in, property but to argue that patents were 'not really' forms of property at all. Thus Rogers in the same address, claimed that he could not 'discern a single characteristic in mechanical inventions which constitutes a claim to the distinctive features of property'.¹³

This argument, however, was difficult for the abolitionists to sustain for two reasons: (i) The ambiguity of the concept of property and (ii) the counter example of copyright.

(i) The argument which denies that a patent is a form of property depends on a very narrow definition of property which limits it to corporeal objects. Such a definition might have been acceptable to contemporary continental jurisprudence following a form of Begriffsjurisprudenz based on Roman law, but it did not even then fit the broader definition of property in English law. The more sophisticated abolitionists realised this. Their solution therefore was to appeal to the common sense conception of property which differed from the legal concept. In September 1865 The Times dealt with this conundrum:

'[T]he right of exclusive property in a discovery differs from all other property, with the single exception of Copyright, in being purely and entirely the creature of the law. Other species of property receive the sanction of the law, but this is created by it. If a man appropriates to himself a material object, he makes it his own, whether he live in a civilized or a barbarous society, and when the law does come into operation it simply steps in and defends his possession of that which he has already. But in the case of Patent Rights and Copyrights the law, instead of defending what a man has, gives him that which he has not; it does not, in fact, sanction a pre-existing dominion, but creates a new privilege.' ¹⁴

Similarly Rogers wrote:

'The law may give him [the inventor] a property, as the law may allow any other privilege which invades the liberty of other men; but his right has a factitious but not a natural origin.' 15

(ii) Copyright raised further problems. In the popular sense this was regarded as a form of property - as an extension of the concept of property to include something incorporeal. Very few of those in favour of the abolition of patents dared to support the abolition of copyright - though it appears that a few thought that its abolition followed logically.¹⁶ The solution most often adopted was to claim that copyright was qualitatively different because, although not corporeal, a literary work was unique and could easily be identified. An alternative solution was to deny that there could be a natural property right to copyright but to claim that since the effect of such a right was different it was a justifiable exception. Thus The Times wrote:

'[T]he author can no more claim protection as of right than the inventor can; there is no such thing as copyright at common law; but it is evident that many arguments may be advanced in favour of the expediency of copyright in literature which are inapplicable to Patent Rights in arts.' 17

The point could of course be made more bluntly in a way which ignored the fact that copyright represented any exception to the definition of property advanced by the abolitionists: Thus, in an address to the National Association for the Promotion of Social Science in 1870, Sir William Armstrong held:

'As to the alleged analogy between copyright and patent right, there is none whatever in regard to obstructive effect. Copyright involves no monopoly of ideas, but patent right does. The field of authorship is not narrowed by copyright but the field of invention is, and to a most serious extent, by patent rights.' 18

The problem with these pragmatic arguments was that they underlined the argument, so popular in Continental Europe at the time,¹⁹ that patents could not, by their nature, be the subject of property. If patents were regarded as a form of property and the abolitionists attacked them they could be represented as opponents of property in general. This point was not lost on the supporters of the patent system who accused Rogers and other abolitionists of socialism.²⁰

C. Contract: The abolitionists also stressed their loyalty to the popularly accepted principle of freedom of contract. They argued that the transaction whereby the state decided to grant an exclusive privilege to someone 'should be in the nature of a bargain',²¹ but that, in practice, it was not a 'true' contract, for the inventor only entered into such a bargain when it suited him. The state however, 'automatically' granted a patent when requested to do so. This, they argued, was contrary to the principle of parties entering freely and voluntarily into a contract.

D. Evolutionary progress: Abolitionists also appealed to the common-sense belief in progress and a faith in evolutionary development of technology. Thus a Mr Winkworth, speaking at a meeting of the Society of Arts in 1854, claimed:

'We might rest assured that the man of real genius was a true patriot, and would not hide his talents under a bushel. If the patent laws were abolished to-morrow, there would be more useful inventions than ever, for talent being no longer bound by the fetters of monopoly, and breathing a freer atmosphere, would find its true position and exhibit itself in forms to astonish, delight, and improve the world.' ²²

E. Administration: A further plank in the abolitionists' platform was the weakness of the patent system as a bureaucracy. Within the accepted common sense of the 1850's, condemnation of inefficient administration was important. The existing patent system which had recently been reformed was demonstrably still weak and inefficient. The weakness of the partially reformed administration was exacerbated by the large increase in applications which followed the 1852 reforms and the concomitant reduction in fees.²³ As early as 1854 an opponent of the patent system remarked that 'he trusted that the time was not far distant when the whole system would be crushed under its own weight'.²⁴

(i) In spite of reforms (outlined in the previous chapter) the post-1852 administration retained some of the characteristics of an early modern bureaucracy.²⁵ The reforms of 1852 had swept away many of the offices of patronage, but not all. In particular, a Mr Edmunds, originally appointed to the unreformed Patent Office as a result of the patronage of Lord Brougham, had been appointed as clerk to the new Patent Commissioners. Edmunds continued to follow the practices of the past. He did not keep a separate account of the large sums of public money which passed through his hands. In fact he did not do any of the work related to patents himself but instead he employed a subordinate to collect the fees on his behalf. The subordinate was not paid a salary but managed to scrape an income from discounts of 1½ per cent on the stamps bought

at the Stamp Office, from small gratuities from patent agents and from profits on the sale of boxes into which letters patent were put.²⁶

Edmunds' 'traditional' approach perhaps inevitably brought him into conflict with the 'new men' appointed as a result of the reforms of 1852. In particular he clashed with Bennet Woodcroft, the former professor of mechanical engineering whose dynamic reorganization of the Specifications Office epitomized the professional approach of the technologically trained bureaucrats in the Patent Office. In 1862 the clash between the two styles of administration became public as a result of accusations of corruption. It eventually culminated in the dismissal of Edmunds - a victory for the more 'rational' bureaucratic form. The lengthy squabble, however, undermined confidence in the administration of patents as a whole.²⁷

(ii) A second weakness of the patent system as reformed in 1852 lay in the work done by the Commissioners of Patents - the Lord Chancellor, the Attorney-General, the Solicitor-General and the Master of the Rolls. In practice they did not operate efficiently. With the exception of the Master of the Rolls the persons filling these offices changed with each government. The Commissioners were supposed to supervise the operation of patent office bureaucracy or appoint extra commissioners to assist them in doing so, but they failed to appoint extra commissioners and did not themselves supervise the operation of the system systematically. As Lord Romilly who was Master of the Rolls from 1851 to 1873, testified in 1871:

'[N]othing can be worse than such a Commission; it does no good at all. It is very difficult to get the members of it together. The Lord Chancellor, with the Master of the Rolls and the two officers of the Crown are the only persons who attend it; it is difficult to get a meeting, because they have so much to do elsewhere, and then matters are not satisfactorily disposed of, and are almost entirely confined to duties that have nothing to do with the granting of patents.'²⁸

A more serious weakness in the finding of the Commissioners lay in the examination of patent applications and the accompanying (provisional) specifications, which in terms of the 1852 Act had to be done by one of the Commissioners.²⁹ Their duty was to examine whether the application was, on the face of it, in accordance with the law, but the evidence is that they did not do this.³⁰ Indeed, a Mr Henson, the chief clerk of the Attorney-General who testified in 1871 that he dealt with patent matters on behalf of the Attorney-General, could not give the legal definition of what was

patentable.³¹ Henson admitted, under cross examination from Macfie, the abolitionist, that he allowed applications 'if, in my judgment, the specification fairly describes the invention or something I deem an invention' but, he added, 'where there is the smallest pretence for a patent the doubt is resolved in favour of the patentee'.³²

The failure of the Commissioners of Patents to provide a proper examination was compounded by the fact that they derived a large income from their 'services'. Applicants paid £2,2s to have their applications examined by one of the Commissioners. The extent to which these fees were regarded as the spoils of office is apparent from the evidence of Aston to the 1871 Select Committee on Letters Patent:

'I do not think that the law officers themselves look upon the fees which they derive from the patent funds as being, in fact, the remuneration for the duties which they discharge in connection with the Patent Office. It is understood that those fees provide a means of remunerating them for the duties which they discharge as the law officers of the Crown. I am quite clear that they should be looked upon in that light, because the compensations received by the officers for Ireland and Scotland are paid for no duties at all; for we find that a sum of 3,500£. per annum on the average is paid to them and their clerks for doing nothing in connection at least with patents.' 33

Critics of the system were not slow to attack the role of the Patent Commissioners. As early as 1855 the Manchester Examiner and Times commented on the report of the Commissioners of Patents for 1854 which had noted that 'no alteration was made within the year 1854 in the allowance of fees to be paid to the law officers and their clerks'. It said:

'As two of the commissioners (the Attorney-and Solicitor-General) are themselves the recipients of those fees, we need not wonder that they let well alone. Sir Alexander Cockburn has received £2,860, being at the rate of £2.2s. on each of 1,362 certificates of specifications, £42 for fiats on reference, £1,019 for signing 971 warrants, - being a total addition to the Attorney-General's income from this source of no less than £3,921. His clerk has netted £345 from the same source. Sir Richard Bethel, the Solicitor-General, has received altogether £3,896. His clerk has received the same as the Attorney-General's. The compensations for the year show some nice pickings for doing nothing.' 34

Similarly The Times in the course of an abolitionist leading article argued:

'Surely nothing can be more ridiculous than to make an Attorney or Solicitor-General, who is loaded with professional and Parliamentary business, the judge as to whether some claim to scientific invention is valid, and whether it fulfils all the conditions which should entitle it to be made a monopoly in one person. No single man, if he had the content of all the Encyclopaedias in his head, could do one half of the work. Of course, it becomes a sinecure source of fees to the law officers.' 35

(iii) Aspects of the patent system, other than the role of the Attorney-General, provided grist to the abolitionist mill. Over and above the fees paid to the Commissioners of Patents, the other fees paid by patentees produced an income far in excess of that required to run the Patent Office. In the period 1 October 1852 to 31 December 1870 there was a surplus in every year except 1854. By the end of 1870 the surplus amounted to £866,830 or 47.8 per cent of total receipts.³⁶ Not surprisingly critics of the patent system argued that the fees represented an unjustifiable 'tax' on invention.³⁷

(iv) A final weakness of the patent system, as it existed after 1852, was the costly and uncertain court procedure which had to be followed to enforce a patent. The basic form was an action for damages. This action was heard by a special civil jury. It had to decide complicated technical issues: whether, for example, the plaintiff's invention was new or whether the defendant's process was substantially different from that patented by the plaintiff.³⁸

The Times used this weakness as a further plank in its abolitionist platform and argued:

'If anything can be more ridiculous than the original jurisdiction of these overworked lawyers [the Commissioners of Patents], it must be the reappearance of the same matter in due time before a British judge and a jury. They know no more about the subject before them than they do about the procession of the equinoxes; and it comes to this, that the most adroit counsel, who present the subject in the point of view most likely to hit their conviction, wins the verdict. They strive to do what is right for they are honest men, but the law puts them in a false position.' 39

F. The position of the worker: The opponents of the patent system were, generally speaking, sensitive to the criticism that their proposals might serve to support a particular group or class. Occasionally they harmed their own cause. Thus the passionately anti-patent journal The Economist concluded in 1869:

'[T]he more that invention falls into the hands of great capitalists, the more likely it is to strengthen the manufacturing of a country which is already most powerful.' 40

On the whole, though, the opponents of the patent system were more circumspect. They stressed that not only the entrepreneurial (capitalist) middle class would benefit from their proposals but so also the working class as a whole. Some argued that the position of the worker would be materially strengthened by the abolition of patents. A more common argument was that the prosperity of the capitalist and the worker depended on the same factors. As it was expressed by The Echo in 1869:

'The advantage of a few clever operatives should be no argument in favour of a law detrimental to industrial enterprise in general, and so to the mass of the workmen themselves.' 41

G. Supporters of patents: The abolitionists could hardly deny that there were some people who did profit from the existing patent system. In one of its earliest abolitionist leading articles The Times wrote:

'[I]t [the patent system] is seen at once to be a disgraceful abuse, by which no one profits but the lawyers and a few speculating tradesmen.' 42

This theme of a small group often recurred. Thus Professor Rogers explained that he had been motivated to address the British Association in 1861 because he

'thought that a number of resolutions in favour of patents had been carried in an objectionable manner at a meeting of the Mechanical Section of that Society, that is, before parties who are prima facie interested in the maintenance, and even the extension, of the present system'. 43

Patent lawyers were singled out for attack. One correspondent wrote to the Journal of the Society of Arts:

'[T]here is only one body of men who derive any certain and permanent benefit from these laws - the patent lawyers; for making out of patents and the disputes arising therefrom are a most fruitful and certain source of revenue.' 44

What can be deduced from the arguments adopted by the abolitionists in their campaign? The first five themes are sufficient evidence to show that they whole-heartedly accepted the dominant common sense of their time and sought to use it to legitimise their drive for the abolition of the patent system. In other words, to paraphrase Cain, the ideology of the abolitionists was rooted in bourgeois common sense.

The last two themes are of interest for a slightly different reason, for they show that the abolitionists did not want their ideology linked to sectional interests. They therefore stressed that they represented the broad interests of society - including those of the working class. Moreover they tried to brand their opponents as representatives of particular fractions ('speculating tradesmen' and patent experts) who were motivated by self-interest and who, because of their position, were unable to articulate the interests of society as a whole. To translate the matter once more into Cain's terminology: Through their apparently 'open' ideology and through their attempted co-option of working class support they tried to constitute an ideological sector which would enable the campaign for abolition to be conducted on cross-class lines. The abolitionists were operating against the backdrop of the existing patent system and, most importantly, in opposition to those with vested interests in it. Their version of how legal control of new technology should be exercised had to be neutralized by the abolitionists so that they could then substitute their own ideas.

III. The Abolitionist campaign

In the two decades after 1852 abolitionists addressed all the important organizations which were connected with the shaping of national policy towards the development and control of new technology. These include the British Association,⁴⁵ the (Royal) Statistical Society,⁴⁶ the National Association for the Promotion of Social Sciences⁴⁷ and some Chambers of Commerce.⁴⁸ They also spoke at meetings of organizations generally hostile to their cause such as the Society of Arts⁴⁹ and the Inventors' Institute.⁵⁰ In this campaign they received some support from the press of which the consistently pro-abolitionist stance adopted by The Times was perhaps the most important.

The campaign for abolition was relatively insignificant in the 1850's but became more important in the early 1860's. At about the time of the 'Edmunds affair' the government was persuaded to appoint a Commission of Inquiry into the patent system as a whole.⁵¹ The period during which the Commission sat coincided with an intensive effort on the part of the abolitionists to make the patent system the subject of public opprobrium. Abolitionists also gave evidence before the Commission and stressed both practical shortcomings and the theoretical inadequacy of the patent system.⁵² The Report of the Commission which was made public in 1865 was a partial victory for the abolitionists.⁵³ It made some recommendations for reform

which it argued would remove some abuses but concluded:

'While, in the judgment of the Commissioners, the changes above suggested will do something to mitigate the inconveniences now generally complained of by the public as incident to the working of the Patent Law, it is their opinion that these inconveniences cannot be wholly removed. They are in their belief inherent in the nature of a Patent Law, and must be considered as the price which the public consents to pay for the existence of such a law.' 54

The Times, in a leading article on 10 February 1865, found that this paragraph in the report justified the abolition of the patent system. It rejected what it perceived to be 'faltering steps to abolition' and remarked that

'[I]t is only remarkable that public opinion has so long hesitated in accepting a dilemma which is seen to be inevitable when the theory of patent law is reduced to its simplest form.' 55

There are also signs that by the 1860's the attitude of the courts towards the interpretation of patent 'rights' was being influenced by a critical, anti-monopolist stance.

Foremost amongst the decisions which limited the rights of patentees was Feather v The Queen.⁵⁶ The background to the case was that during the Crimean war the British government became involved in the manufacture of equipment for its defence force. Some of the articles which it wished to manufacture were patented. At the instigation of Sir Roundell Palmer,⁵⁷ the Solicitor-General and a fervent abolitionist, the state argued that it was not bound by these patents in the same way as a private citizen. This view was upheld by the court. Cockburn C J justified the decision by arguing, on narrowly legalistic grounds, that a patent was really a prerogative of the Crown and that the Crown was not bound by its own prerogatives.⁵⁸ In order to arrive at this conclusion he had specifically to dismiss the theory advanced by counsel for Feather that a patent was 'a species of contract' according to which

'[a] bargain is made between [the patentee] and the Crown that in consideration of his divulging the secret the inventor shall have the sole benefit of the invention during a limited time'. 59

The decision meant that a line of authority going back to the 18th century

was severed; that one of the strong ideological justifications for patents was overturned by the courts; and that patentees were not able to bargain from a position of strength when dealing with the state itself in the control of units of technology.

The abolitionists exploited the decision for their own ideological purposes. In 1869 The Economist commented on the decision in Feather's case:

'A few years ago the manufacturing departments of Government found themselves so hampered by Patents that they resolved to try whether they were bound or not, the result being a legal opinion that they were not bound. But Government is only a great manufacturer, its work in some departments being less than in many private businesses. Is there any reason why Government should be released, and individuals bound to patentees? As to the supposition that invention will cease, the mere interest of the Government in paying for anything worth having is found a sufficient stimulus to invention in the things which it requires; and so it is assumed will be the interest of competing manufacturers.' 60

Supporters of the patent system were outraged by this decision. The pro-patent Scientific Review remarked bitterly that the decision in Feather v The Queen was 'the most extraordinary decision ever arrived at in a court of justice on the subject of patented inventions'.⁶¹ The effect of the decision, The Scientific Review continued, was that

'it was, for the first time, laid down... that robbery is justifiable, if committed by that government to which, in whatever form, mankind consent to be subject, only that property may be protected'. 62

The courts continued to limit patent rights, as far as possible. In 1867 it was held in Daw v Eley⁶³ that a court was bound to hold a patent invalid if the foreign (in this case French) patent on which it was based was declared invalid.⁶⁴

After this decision (and the decision in Harwood v Great Northern Railway Co⁶⁵ that a 'fish plate' to join rails was not new) supporters of the patent system began to feel threatened by the approach of the courts. A despairing correspondent wrote to The Scientific Review in February 1867:

'[I]t appears to me that our opponents though defeated in their attempts to influence Parliament in favour of the abolition of Patent Property, have transferred their basis of operations to our Courts of Law, and with remarkable success; for by a few legal victories obtained in rapid succession - such as those in *Feather v The Queen*, *Harwood v the Great Northern* and *Daw v Eley* - they have actually invalidated more than one-half of the patents which were supposed to exist. Only a few days since, I was credibly informed that in one of the great patent cases now in course of litigation nearly a hundred persons were banded together for the purpose of ruining the patentee. ...' 66

The campaign for the abolition of the patent system was spearheaded by R A Macfie who had opposed the 1851 and 1852 Bills in his capacity as Liverpool sugar refiner. From the 1860's onwards he addressed many meetings and published several books and pamphlets.⁶⁷ He also appears to have corresponded with numerous persons who, in various European countries, were conducting campaigns and using similar arguments to the British in order to have their municipal patent systems abolished.⁶⁸

Macfie in his speeches was therefore able to argue that patents were being attacked in several European countries. In his book published in 1869 he could quote a speech in which Bismarck expressed his opposition to patents to the 'North German Parliament', extracts from speeches to French and Belgian societies dedicated to the abolition of patents and, perhaps most impressively, from the debates of the parliament of the Netherlands which actually decided to abolish patents in that country in 1869.⁶⁹ By 1869 therefore the anti-patent movement in Britain could claim that it was part of a rising international tide of opposition to patents in the name of free trade.

Eighteen-sixty nine was also a highwater mark for the British abolitionist movement. In that year Macfie, who had been elected Member of Parliament for Leith, proposed a resolution in the House of Commons which stated:

'That in the opinion of this House the time has arrived when the interests of trade and commerce, and the progress of the arts and sciences in this country, would be promoted by the abolition of Patents for Inventions.' 70

Macfie's motion was seconded by Sir Roundell Palmer.⁷¹ Palmer's arguments were given additional weight by the fact that he had been Solicitor-General and therefore could describe the shortcomings of the administration of the patent system from firsthand knowledge. Important

additional support for the abolitionist cause was provided by Lord Stanley, the Chairman of the 1862 Commission.⁷² Stanley stated that he had been 'converted' and, if forced to vote on the motion, would support it.

In the event the motion was withdrawn after vague promises of reform from the government,⁷³ but it had provided valuable publicity for the abolitionist cause. The Times commented exultantly in a leader on 29 May 1869, the day after the debate in parliament:

'[I]f we may judge from the discussion upon the subject in the House of Commons last night, the day is at hand when this branch of our legislation will be wiped out of the statute-book.' ⁷⁴

A week later The Economist wrote: 'It is probable enough that the Patent-Laws will be abolished ere long....'⁷⁵ Even newspapers and journals that supported the retention of the patent system admitted that the abolitionist movement had progressed.⁷⁶

Up to this stage (mid-1869) the abolitionists had addressed themselves almost exclusively to a middle class audience and had concentrated on organizations which had some link with the introduction of new technology. Within the dominant class they gained support from different fractions: This is illustrated by the following sentence in The Times' description of the 1869 debate:

'Two of the foremost representatives of law and of statesmanship [Sir Roundell Palmer and Lord Stanley respectively] thus enforced the reform demanded by Mr. Macfie as a spokesman for manufacturers.'⁷⁷

Flushed by the success of the motion in the House of Commons the abolitionists tried to extend their class base. Accordingly on 24 July 1869 a 'conference of working men' was held in London 'under the auspices of Sir Roundell Palmer, M.P., Mr Macfie, M.P., and a few other opponents of Patent Property, to consider the desirability of abolishing the Patent Laws'.⁷⁸ At the meeting Palmer and Macfie argued that the patent system should be abolished and sought to have a resolution adopted stating that patent laws were 'a hindrance to genius, science, and progress and the progress of the whole civilized world, in however simple a form they may appear'.⁷⁹

From the point of view of the abolitionists the meeting proved to be a disaster. Abolitionist speakers were persistently heckled. They failed even to get their resolution introduced, for the speaker into whose hand the

resolution was put 'very unexpectedly',⁸⁰ refused to introduce it and proposed instead that the patent system be supported. The amended resolution,

'[t]hat the meeting having heard the statements for and against protection for inventions by the existing patent laws, is of opinion that protection is absolutely necessary as a right, by which inventors may be secured a true legitimate right in their inventions' (81)

was carried with acclamation. Macfie concluded that the meeting had been rigged.⁸² There is some indirect evidence to support this contention⁸³ but it was widely rejected.⁸⁴ Proponents of the patent system were able to claim, and claimed, that the failure of the meeting showed working class support for the Patent system.⁸⁵

IV. The supporters of the patent system

The two decades after 1852 were difficult for the supporters of the patent system. They were supporting a system which ostensibly contained elements of monopolistic practice, state interventionism and 'large government', all of which stood condemned by the Zeitgeist. Moreover, throughout this period, they had to cope with a dominant common sense (public opinion) which was becoming increasingly sensitized to the idea that the patent system might be an anomalous survival of past practice.

As shall become apparent, the supporters of the patent system operated within the same common-sense framework as their opponents. The major difference, however, lay in their ability to organize in order to withstand the onslaughts of the abolitionists. When circumstances changed they were able to redeploy the arguments which they had been using all along so that these arguments became the unquestioningly accepted common sense on the form which law governing technology should take. In the section that follows this ideological appeal will first be analysed. The following section will deal with how they organized to combat the abolitionist threat.

In the previous chapter it is argued that until 1852 the major differences of opinion about the patent system lay between the old order who wished to retain the patent system unchanged and the reformers. In the post-1852 period the division ceased to be of prime importance for two reasons: (a) the partial eclipse of the old order by the abolition of the major offices of patronage in the administration of patents; (b) the necessity to face the common abolitionist enemy. The result was that claims to justify all specific

aspects of the patent system in the light of historical precedent disappeared. Instead the retention of the system in general was supported on the grounds that historically a patent system had served Britain well even although the present system might need some adjustment. The reformist or traditionalist approach of a particular speaker would determine which of these elements he emphasised most when he supported the patent system. A contradiction between them was consistently denied.⁸⁶

The historical argument was used by the supporters of the patent system alone. It was not available to the abolitionists. The other arguments adopted by the supporters of the system in this period can best be understood if classified in the same way as the arguments of the abolitionists. In this way it can be seen how they overlap and where they differ.

A. Free trade: The supporters of the patent system claimed to support free trade as much as did its opponents. They dismissed the abolitionists, in the words of The Standard, as 'the supporters of free trade in other people's ingenuity'.⁸⁷

In its first leading article The Scientific Review, the journal of the pro-patent Inventors' Institute, described as 'most fallacious' the argument that a patent was a form of monopoly. It argued that a patent was not a monopoly as it entitled someone to control something 'new' rather than to control existing processes. It concluded:

'In a certain sense, and to a certain extent, all property is a monopoly, and patent right is so in just that measure. Whatever a man has created, either by his head-work or his handiwork, that he has an indefensible right to sell, in the best market he can find, to the highest bidder he can get.'⁸⁸

The argument therefore was that a patent system was required in order to create units of technology which could be 'traded'. This point was made in an editorial by the Daily News:

'[T]he Patent Laws, so far from being in opposition to the principle of free trade in inventions, promote and guard that freedom by creating the hope of securing the profits accruing from the invention. The abolition of the law which enables the inventor to drive a fair bargain with the capitalist, means giving legal sanction to piracy in inventions.'⁸⁹

B. Property: Arguments that patents were property rights analogous to copyright - a similar and accepted property right - are found throughout

the writings of the supporters of the patent system. Defence of property was clearly an unassailable value in the dominant common sense. Supporters of the patent system wished to be seen to be defending property. An analysis shows that the supporters of the patent system used the concept, property, in different ways. Most crudely patent rights were directly equated with property. In the words of the Pall Mall Gazette:

'[O]f all the forms of property the one most clearly traceable to human endeavour, and the one most distinctly devolving on the person who has used that endeavour, is property in invention'.⁹⁰

Similarly, speakers at meetings of the Inventors' Institute or at working men's organizations tended to equate their products of mental labour with property. An example of this is a speech by a Mr Patterson (of the Working Men's Club and Institution Union) who remarked that if an inventor 'had a brain property, or, in other words, if he invented a new article of manufacture, he ought not to have to pay any tax to have it protected'.⁹¹

Legal writers were however, more circumspect in their use of the concept, property. Thus the sub-committee on Patent Law of the Society for Promoting the Amendment of the Law opined that the question regarding the natural right of the author of an invention had long ago been 'settled in the negative'.⁹² However, this did not prevent them from regarding patents as a form of property - they merely held that the property right of an inventor 'is the creature of municipal law'.⁹³ They could therefore use the loaded term, property, without having to defend it in a formal jurisprudential argument - or, in Weberian terms, by using formal legal rationality ('Municipal law' could be justified in terms of substantive rationality: i.e. on the basis of its utility).

A similar approach was adopted by the patent barrister, Thomas Webster who, in an address to the Society of Arts declined to defend an abstract, 'natural property right' to a patent but who nevertheless argued that 'the recognition and protection to property in intellectual labour, while it is but an act of natural justice to the individual is the best and wisest policy for the State'.⁹⁴

The result of this ambiguity surrounding the term, property, was that the supporters of the patent system could continue to use it without having to deal with the full implications of regarding all knowledge as property - for, of course, only certain types of (scientific) knowledge came within the ambit of the patent system.

C. Contract: The opponents of the patent system stressed that the 'agreement' whereby the state gave a patent in exchange for the publication of information was not freely entered into since the state 'automatically' granted patents. The supporters of the system denied this and held that the agreement was in essence a contract and therefore ought to be upheld, since in common sense, the sanctity of contracts, was taken for granted.

'The Patent laws' [wrote The Scientific Review] amount ... to a fair bargain between the State, acting also for posterity, and the individual, by which, on certain conditions, that which was the property of one becomes the property of all.' 95

Even after the decision in Feather v The Queen⁹⁶ in which, as has been seen, the idea of a patent being legally a contract was rejected, the notion lingered on in the ideology of the supporters of the system. In 1869 it was clearly stated by a correspondent to The Standard who signed himself 'A Barrister'. He said:

'The grant of a patent is really nothing more than this. A contract between the Crown (on behalf of the public) and the inventor that the inventor shall have the sole right to use his invention for fourteen years, on condition (that is the contract) that he shall tell the public clearly (by his specification) how to use it; and that, at the end of fourteen years, the public shall be put in possession of the reversion. This is a pure contract, and nothing more. I am, of course, well aware that the patent itself is expressed to be granted by the mere grace of the Crown. But that is nothing more than a relic of the language used in letters patent before the era of manufacturing invention; when the subjects of grants by letters patent were always land, honours, or other advantages, which were strictly in the gift of the Crown, and de facto given by the mere grace of the Sovereign. But ever since, at least, the beginning of the last century, patents have been, as they are at this day, a mere bargain between the public and the inventor, and not a gift, boon, or reward, in any sense whatever.' 97

D. Evolutionary progress: Supporters of the system stressed that patents had contributed materially to economic progress. They referred to early patentees such as Watt and Arkwright and flatly denied that their and other inventions could have been made without the existence of the patent system. Thus, for example (and there are many examples), Webster, in an address to the Society of Arts, asserted:

'[O]ur manufacturing superiority can only be maintained by continued progress, and such progress can only be ensured by giving property in the inventions which are to contribute thereto.' 98

Since the relationship of patents to inventive activity was (and is) unknown this assertion could only be met by a counter assertion. The value of this debating point would ultimately depend on perceptions of the underlying reality.

E. Administration: The supporters of the patent system shared the abolitionists' view that the administration of the system was not perfect. The supporters differed amongst themselves about what reforms ought to be implemented. In general those who stressed abstract legal rights wanted the most sweeping reforms. An example of this attitude can be found in a speech of Sir David Brewster to the Royal Society of Edinburgh. He said:

'If these views of Patent rights ['as the Magna Charta of the commonwealth of inventors'] be just, and if, as movable property, they are as sacred as copyrights, there can be no just reason why they should not be granted equally cheap, given to every applicant, and enjoyed during at least the life of the patentee.' 99

F. The position of the worker: The supporters of the patent system persistently presented themselves as the champions of the working inventor. For example, in 1869, a patent agent M A Soul wrote a book entitled, Reform of the Patent Law; a working man's question. In it he stated:

'The question of a cheap protection for inventions is essentially a working man's question, and the law should be so amended that working men should be able with their own limited means, unassisted by others, to obtain Letters Patent. The conduct of Patent suits should also be so simplified, and rendered inexpensive, as to render the poor Inventor, practically, the legal equal of the rich capitalist.' 100

On the same occasion, however, the relationship between the worker and patent law was described in a way which suggests that supporters of the system were more concerned about the effects that a blatantly inequitable patent system would have on inter-class relations. Thus F W Campin (a former patent agent turned barrister) reported in a somewhat patronising way that working men's industrial exhibitions were 'socially regenerative' - 'if men are engaged in preparing objects for exhibition, they cannot visit the public house while they are doing so'.¹⁰¹ This 'social gain', he

contended, was however, in danger of being lost because of the practical shortcomings of the patent system which discouraged artisan-inventors.

G. Opponents of patents: The supporters of the patent system tried to discredit the abolitionists by suggesting that the abolitionists were merely looking after their own selfish interests. 'Large capitalists' were persistently seen as bogeymen who would defraud the inventor if given the chance. A correspondent of The Weekly Times writing shortly after Macfie's motion had been debated in parliament, gave a good example of this line of thought:

'Mr Macfie spoke simply like a capitalist, taking a purely selfish and narrow view of a great and very difficult question. Nothing that he said is worth notice. He reminds us of what we all know - that a great many greedy manufacturers would like to make money out of other people's brains without giving them anything in return.'

He continued:

'There are few patents that I would accept as a gift if bound to protect them from attack. A dishonest capitalist can make a fortune by stealing the inventions of men not rich enough to oppose him, and I believe that this species of marauding is not at all uncommon amongst great firms. Our rogues and thieves are not confined to the poor and needy. Many of our greatest rascals are the richest, and our system of law is that of distributing unequal justice, which is injustice - letting those who can pay most, cheat most, if they please.' 102

An important figure who vehemently attacked the opponents of patents was John Stuart Mill. As has been seen above, in his more theoretical pronouncements, Mill, along with the classical economists, supported the patent system as a justifiable (and relatively uncontroversial) exception to their general laissez-faire approach. In the fifth, 1862, edition of his book Principles of Political Economy, however, Mill became directly involved in the controversy.

'I have seen with real alarm several recent attempts, in quarters carrying some authority, to impugn the principle of patents altogether; attempts which, if practically successful, would enthrone free stealing under the prostituted name of free trade, and make the men of brains, still more than at present, the needy retainers and dependants of the men of money-bags.' 103

Mill's words were widely quoted by supporters of the patent system who appealed to his authority on the basis of Mill's standing as a political

economist. Occasionally they linked Mill to other classical economists, notably Adam Smith, thus claiming the support of the most important prophet of the common sense they espoused.¹⁰⁴

Analysis of the arguments advanced by the supporters of the present system shows that in their appeal to the dominant common sense they used the same concepts as did the abolitionists. This is borne out by the first five themes considered above. The last two themes are also comparable. Like the abolitionists the supporters of the system aimed to show that their opponents were an unrepresentative, self-interested fraction, while they spoke for society as a whole. The supporters also wished to recruit working class support to show that they were a hegemonic sector with adherents in all classes of society, and also perhaps to show members of the middle class that working class support could be gained for existing laws as long as they were 'just and fair'.

V. The organization of support for the patent system

In the passage of the 1852 Patent Act the patent agents and other experts in patent law had played their roles both through the medium of organizations which campaigned for reforms and as advisers to the legislature. Since the passage of the 1852 Act led to a sharp increase in the number of patents passed, it brought about a growth in work and therefore in the numbers of patent agents and barristers who specialized in patent matters. The 'strategic social position' which patent agents had achieved before 1852, was maintained and strengthened. Patent experts continued to support their claims to a unique area of expertise by publishing scholarly texts on patent law and related fields such as the law of industrial designs. In these books they included arguments in support of the system and combined them with discreet proposals for reform.¹⁰⁵

To some extent the organizational structures through which patent experts could manipulate 'informed' opinion on patents were maintained as well. The United Inventors' Association (which was linked to the British Association) and the National Patent Law Amendment and Inventors Patent Right Association produced fresh prospectuses in 1856 and 1858 respectively.¹⁰⁶ Both included influential patent experts in their membership, both claimed responsibility for the improvements brought about by the 1852 Act, and both claimed that further reforms were needed and suggested that they could bring them about. Their reformist position is encapsulated in the following extract from the United Inventors' Association's prospectus:

'[A]lthough the spirit of some of those recommendations [which the United Inventors' Association had made in 1852] has been but imperfectly carried out by the Commissioners of Patents, the foundation exist [sic] on which to raise the superstructure of a rational Patent system.' 107

The reforms suggested by these bodies assumed the continued existence of the patent system and aimed at further reducing costs and simplifying procedure. A similar position was adopted by the Manchester Patent Law Reform Association. Under the guidance of the civil engineer, Sir William Fairbairn, and the patent agent, E J Hughes, they continued to act as they had before 1852. During the late 1850's the Association held numerous public meetings at which specific reforms were proposed.¹⁰⁸

The 1850's also saw patent experts play a dominant role in the British Association and, to a lesser extent, the Society of Arts. While abolitionists made occasional speeches to these bodies the reformists managed to dominate the committees directly involved with Patent Law. This was particularly true of the British Association which set up a committee to examine the patent laws in 1854.¹⁰⁹ The committee reported annually from 1858 to 1861 and under the guidance of Fairbairn (chairman of the Manchester Patent Law Reform Association) and Webster (the leading patent barrister) adopted a position which accepted unquestioningly the continued existence of the patent system and proposed detailed reforms.¹¹⁰ The Society of Arts too in 1857, under the name of its vice-chairman, Sir Joseph Paxton MP, produced detailed reform proposals proceeding from the same basis.¹¹¹ The activities of patent experts in these bodies were occasionally the subject of suspicion: Thus The Mining Journal of 14 February 1859 claimed that the system could be left as it was and that patent agents were supporting reforms in order to advertise their services. It concluded:

'[I]nventors would do well to receive our observations as a caution against being deluded by pretended friends. None more than ourselves desire the prosperity of the inventors and the encouragement of genius, but we are convinced that the steps now being taken by the Patent Law Reform Association are not likely to secure either.' 112

Such comments were however, very rare within the circle of supporters of the patent system.

In summary it can be said that the first decade after 1852 was characterized by a certain amount of organization by the supporters of the patent system.

Their arguments were however the continuation of those which had brought about the reform of the system and were not specifically geared to its defence.

The Inventor's Institute : In the 1860's, as the onslaught on the patent system gained momentum, the supporters of the system, while persevering with their reformist approach, had to extend their organization. They did so by setting up the Inventors' Institute in 1862.¹¹³ It is necessary to consider the development of this body in some detail as it appears to have played a major part in co-ordinating the activities of the supporters of the patent system. It was also dominated by patent experts but at the same time it managed to widen the basis of support for the patent system. The Inventors' Institute grew rapidly. Its second Annual Report (1864) spoke of 63 new members joining in the two months before the report appeared.¹¹⁴ By May 1865, when it was planning its third anniversary dinner, the Institute claimed to have 500 members and a council which 'included many of the highest social rank and deserved scientific reputation, combined for the common object of intellectual progress'.¹¹⁵ By 1867 the Inventors' Institute was collecting money so that it could apply for a Royal Charter.¹¹⁶

From its inception the policy of the Inventor's Institute was to combine the dissemination of 'practical' scientific information with a strong element of Patent Law reform. Thus the second annual report shows that several of the fortnightly meetings during the previous year were devoted to the subject of amendment of the patent law.¹¹⁷ The Institute also made recommendations to the Commission of Inquiry appointed to inquire into the Working of the Law relating to Letters Patent for Inventions headed by Lord Stanley.¹¹⁸

In 1865 The Scientific Review was founded to act as mouthpiece of the Inventors' Institute. (It continued publication until 1883 when most of the changes which the Institute supported were incorporated in law.) In its opening editorial The Scientific Review spelt out its position: As mouthpiece of the Inventors' Institute it intended to go beyond the range of existing scientific journals and 'to address itself to a wider sphere, embracing the universal pursuits of inventors [and] to represent their interests and uphold the privileges upon which their existence as a class depends.'¹¹⁹

Foremost amongst these privileges were patents. The editorial promised:

'When... it is asserted that the Patent Law ought to be abolished, as working the despair of inventors, and repressing the improvement of manufactures, we shall insist, on the contrary, that the privileges accorded to inventors are based on sound principles, and that, wisely regulated, a Patent Law is a stimulus to the development of national wealth, and a fruitful source of progress in the improvement of our manufactures.' 120

The journal proved as good as its promises. In the ensuing decade hardly a single number appeared without some defence of the patent system. These were contained in editorials which rebutted the arguments of individual opponents of the system and in lengthy verbatim reports of speeches by patent experts defending the system. In no issue of the journal was it even suggested that there might be a conflict of interests between patent experts (agents and barristers) and inventors. On the contrary, patent experts played a key role in the development of the Institute. The first secretary of the Institute was a barrister called R Marsden Latham. He was succeeded on his death in 1873¹²¹ by F W Campin who had been an influential patent agent before 1852, had testified to the 1851 Commission, had written a textbook on patent law, and had become a barrister in 1864.¹²² Numerous patent agents served on the Council of the Institute at various times, and represented the Institute on deputations to persuade the government to accept its views.¹²³ Moreover, the Inventors' Institute provided a forum where patent agents could be put into contact with prospective clients. This link was formalized in 1868 when a body called the Inventors' Patentright Association Limited was set up under the auspices of the Inventors' Institute to act as patent agents and commercial advisers for members of the Institute.¹²⁴ The Association was directed by R Marsden Latham, R Richardson (civil engineer and vice-president of the Institute) and J Imray and F W Campin (both patent agents).

The Institute played a key role in lobbying for the government and in organizing the dissemination of information favourable to the retention of the patent system. There is a great deal of evidence to support this proposition:

(a) In March 1866 the Scientific Review announced:

'R Marsden Latham, Esq, Secretary to the Inventors' Institute has terminated his connection with the "General Patent Company" in order that he may apply his time and attention in promoting the reform of the Patent Laws and in forwarding the interests of the Inventors' Institute generally.' 125

Latham thus became the first full-time campaigner in the struggle surrounding patent laws.

(b) In April 1866 the Institute agreed to a draft Bill which could be introduced in parliament.¹²⁶ This was the first of many legislative proposals put to parliament.

(c) The Institute made determined efforts to cultivate leading members of various working class movements and to persuade them to support the retention of patent rights.

In March 1868 a meeting 'attended by a large number of members of the Institute, and by the representatives of numerous industrial associations among the working classes', was held to discuss reform of the Patent system.¹²⁷ Following this, in June 1868 the Inventors' Institute sent members of its council to put its case to the government and to lay before it a petition and a proposed patent bill drafted by the Inventors' Institute. The members of the council were according to the Scientific Review accompanied by the representatives of a number of working men's industrial associations.¹²⁸

In November 1868, at the inaugural meeting of the 1868-69 year of the Inventors' Institute, those representing industrial associations were invited to address the meeting after the main speakers had spoken in favour of the system. Mr Savage (of the Workmen's Technical Education Committee) and Mr Patterson (of the Working Men's Club and Institute Union) availed themselves of the opportunity and, perhaps not surprisingly, indicated that working men supported the patent system. They also expressed a desire to co-operate with the Inventors' Institute. Savage is reported as saying:

'When during the last session the working men's delegates had had several discussions with the Council of the Inventor's Institute, they soon formed the opinion that the Institute could do first that which the working men required ... by improving the Patent Laws, and affording more protection to the inventor.'¹²⁹

The result of all this organization was that the Inventors' Institute was strongly placed to counter the abolitionists. For unlike the unorganized abolitionist movement it was able to mobilize support at strategic moments. The Inventors' Institute reacted strongly to Macfie's abolitionist proposals made in parliament on 28th May 1869.¹³⁰

In conjunction with its allies of the 'Working Men's Organizations' it

lobbied members of parliament on the questions. Afterwards it claimed that the withdrawal of Macfie's resolution 'mainly resulted' from its actions and contended 'no other plan of action than this lobbying process could have been relied upon to produce the same effect.'¹³¹

On 1 June 1869 The Scientific Review replied to Macfie's resolution on behalf of the Inventors' Institute. It appealed, '[t]o the brainworkers of England ... for support in resisting the attempt now commencing in the House of Commons to deprive them of all prospect of reward for their labours'. It attacked Macfie as 'the ringleader of those who expect Inventors, without fee or reward from them to work for their benefit;' And, it continued: 'He (Macfie) is also one of the ablest exponents of a theory, fallacious in its assumptions, savouring of the wildest socialism and the most despicable selfishness, a theory which if put in practice, would bring ruin and destruction upon all our industries'.¹³²

Finally, in a single majestic sentence which contains virtually every theme in the ideological framework put forward by the supporters of the patent system, The Scientific Review exhorted its readers:

'Now, if ever, is the time for all who have at heart the interests of invention, of science, of industrial progress, and who desire to maintain for this country that proud position which it has acquired among the nations as the initiator of the steam engine, the railway, and the electric telegraph, to join, as one man, not only in converting this audacious attack into a triumphant vindication of popular right and justice, but to stand forth as the liberators of the inventive genius of England from its final shackles, by obtaining for the poorest inventor a property in the fruits of his labour as simple and perfect as that which the law already confers on books or works of art.' ¹³³

The hyperbole of The Scientific Review paid dividends. On 24 June a 'large' meeting of members and friends of the Inventors' Institute was held.¹³⁴ Several resolutions in favour of patent laws were adopted including one which stated that 'working men are especially interested in supporting the present law'.¹³⁵

The cultivation of working men was particularly advantageous when Macfie and Palmer on behalf of the abolitionists made their bid for working class support at their conference of working men held in London on 24 July 1869.¹³⁶ The report of the meeting in The Scientific Review indicates, perhaps

unintentionally, how the Inventors' Institute seized control of the proceedings: It says:

'Mr R Marsden Latham, of the Inventors' Institute, together with a deputation from the Delegates Invention-right Committee, a body composed of delegates from the Working Men's Technical Education Committee, the Workmen's International Exhibition Committee; the Foremen Engineers' Association; the Working Men's Club and Institute Union; the Public Museums and Free Libraries Association, and other Working Men's Organisations, attended to watch proceedings, and if necessary to take part in the debate.' 137

What this paragraph means is that the secretary of the Inventors' Institute (Latham) gathered round him a large group representing the same organizations which a year previously had supported a deputation of the Inventors' Institute to the government. This interpretation is reinforced by a letter from Macfie to the Daily News which alludes to Latham's role and says that 'at the vote-taking a considerable proportion [of the audience] was composed of sympathisers with the Inventors' Association, [Institute?] who came in late'.¹³⁸ Finally, the influence of the Institute is also illustrated in that the two major speakers on behalf of the working class against the abolition of patents were Patterson and Savage - the men who shortly before had addressed the Inventors' Institute.¹³⁹ The defeat of the abolitionists at this meeting was used as propaganda by the supporters of the patent system. They claimed that it showed working class support for the system.¹⁴⁰

VI. Reformers and abolitionists 1870-1872

By 1870 the two sides in the struggle for the control of the patent system were clearly drawn. The abolitionists with Macfie as 'moral entrepreneur' had succeeded in pressing their claims and bringing to the attention of a wide public the links of their specific position with the dominant 'common-sense' ideals of their day.¹⁴¹ They lacked any organizational structure but they had influential support in government circles. They could claim that the abolition of patents was a 'natural' step in a trend which was sweeping Europe.¹⁴²

The supporters of the patent system on the other hand were well organized around a core of patent professionals. They had been able to propagate their ideas more successfully so that they could present themselves as an ideological sector with support in various social classes.

In parliament the abolitionist thrust initiated by Macfie continued after 1869. In 1870 Macfie proposed that a select committee be set up but he was

defeated by delaying tactics.¹⁴³ By 1871 the issue had lost some of its novelty. The Standard of 10 March 1871 wrote somewhat plaintively:

'A Patent Law debate is among the inevitable Parliamentary annuals. Like our female friend, the Deceased Wife's Sister, it is sure to be heard of, either at the beginning of the session, before members have warmed to their work, or towards its close, when they are pretty well fagged out, and are above all things anxious for a quiet life and a fresh breeze.' 144

Nevertheless, in 1871, determined efforts were made to break the deadlock. On 7 March 1871 the appointment of a Select Committee to inquire into the law, practice and effects of grants of Letters Patent was proposed in the House of Commons by B Samuelson and seconded by Macfie.¹⁴⁵ The proposal was accepted and the Select Committee was chosen.¹⁴⁶ Although the setting up of the Committee served to block the reformist (patent law) Bill which had been tabled in parliament, this did not mean that unanimity had been reached on the patent issue.¹⁴⁷ On the contrary, the Committee represented an agreement to differ, for in the speeches proposing the establishment of the Committee Samuelson argued that it would be able to produce the reforms required to revitalise the system¹⁴⁸ while Macfie was confident that the Committee would recommend the abolition of the system as a whole.¹⁴⁹ The Committee reported only its evidence at the end of the 1871 session¹⁵⁰ but this evidence was accepted by a similar Committee which was reappointed in 1872¹⁵¹ and produced a report later the same year.¹⁵²

It is worth examining the different approaches of the abolitionists and the supporters of the patent system during this crucial period. The abolitionists concentrated on shaping public opinion. Perhaps the most important 'set piece' in their campaign was a major address by the well known inventor, Sir William Armstrong, to the National Association for the Promotion of Social Science in 1870.¹⁵³ In this extensively reported speech Armstrong rehearsed virtually all the arguments which had been advanced against patents: the importance of free trade, the dangers of monopolies, that patents were not property, that patents were not analogous to copyright; and that the system did not effectively reward inventors. Armstrong concluded with a sweeping statement of the laissez-faire view of government:

'I deprecate all interference with liberty of action, except in restraint of offences; and I maintain that the greatest good to the greatest number will only be attained by leaving the social world as much as possible to the governance of natural laws.' 154

Apart from Armstrong's speech and a similar speech by Macfie to the (hostile) Inventors' Institute,¹⁵⁵ the abolitionist cause was not presented systematically to the public during this period. Instead, the abolitionists relied on the evidence of various expert witnesses. Thus before the 1871 Select Committee Sir Roundell Palmer, Sir William Armstrong, Lord Romilly and Mr Macfie all argued that the patent system ought to be abolished.¹⁵⁶ They were substantially supported by W R Grove QC and E Schneider who both argued that the existing system was so poor that, if something better could not be substituted which drastically restricted its scope (and they were pessimistic about whether this could be done), the whole system ought to be abolished.¹⁵⁷ These witnesses undoubtedly carried a lot of weight. On the other hand, similar witnesses were produced before the 1871 Committee to support the retention of a reformed patent system.¹⁵⁸

The supporters of the system adopted a more systematic approach. After 1870 they organized in various ways. They continued their activities in institutions such as the British Association,¹⁵⁹ the Society of Arts¹⁶⁰ and the Manchester Patent Law Reform Committee,¹⁶¹ using them as forums from which pleas for the preservation of a (reformed) patent system could be made.

The Inventors' Institute went further than this. It mounted a concerted campaign to place evidence favourable to its cause before the Committees by sending 'official' representatives to testify on its behalf and by exhorting its members to testify.¹⁶² The increase in the number of pro-patent witnesses to the 1872 Committee reflects the success of their efforts.¹⁶³

The activities of the Inventors's Institute extended beyond public speeches and testimony by its members. It also actively lobbied the Select Committees. Thus The Scientific Review of July 1871 reported that a subcommittee of the Institute, 'the Parliamentary Committee on the Patent Laws... continued to attend and watch the proceedings of the Committee [of Enquiry]',¹⁶⁴. That the attendance of members of the Institute was not quite passive is apparent from a leading article in the same journal, two months later, entitled 'Obstruction of Patent-Law Reform in the Lobby of the House of Commons'.¹⁶⁵ This article protested against a new ruling which excluded lobbyists from the corridors of the House of Parliament. Members of the Institute were asked to 'operate upon their representatives in their several electoral districts in order that this objectionable and absurd obstruction be forthwith removed',

for, warned the leader '[t]he advancement of Patent Law Reform cannot fail to be seriously affected by this absurd regulation'.¹⁶⁶

Patent experts, and particularly patent agents, continued to play a key role both within the Inventors' Institute and outside it: (A) The official witness of the Inventors' Institute, J Imray, was a patent agent and author of a textbook on Patent Law.¹⁶⁷ (B) The links of the Inventor's Institute with workmen's organizations were largely maintained by the patent experts with whom 'artisan-inventors' presumably had to deal in order to obtain patents. Thus during 1871 at a meeting of the Labour Representation League, presided over by R M Latham (barrister, patent agent and secretary of the Inventors's Institute) well-known patent experts such as T Webster and J Imray were welcomed as participants.¹⁶⁸ A motion proposed by G Potter (an 'artisan' member of the Inventors' Institute) and seconded by F Campin (patent agent, barrister and member of the Council of the Inventors' Institute) was introduced. This motion is worth quoting in full for it shows how various themes articulated by the supporters of the patent system were linked to the interests of the working class. It read:

'That the existence of a legal property in invention is a measure of justice to inventors, especially advantageous to working men, and of benefit to industrial progress, and it is very desirable that the Patent Laws should be reformed so as to render such laws more available for the above ends.' ¹⁶⁹

(C) Patent agents for the first time founded an exclusive professional body of their own. In July 1871 a meeting of 'London Patent Agents' was held.¹⁷⁰ A series of resolutions was adopted which affirmed 'the natural rights of inventors' and proposed substantial changes to the patent system. The proposed changes were that patents be granted cheaply, for a period of 21 (instead of 14) years, and with the minimum of bureaucratic intervention.¹⁷¹ With these resolutions the London patent agents committed themselves to a position favoured by the most extreme supporters of inventors' rights.

On the 8th May 1872 the Select Committee on the Patent Laws presented its report.¹⁷² As a whole the report was a decisive triumph for the supporters of the patent system. In the words of The Times the report was 'decidedly adverse to what has been called Free Trade in Inventions'.¹⁷³ The report's first two paragraphs defended the utility of the patent system. It found, 'after a careful consideration of the evidence on the respective

branches of the enquiry given by eminent lawyers, patent agents, inventors, and manufacturers of this and other countries':

'1. That the privilege conferred by letters patent promotes the progress of manufactures, by causing many important inventions to be introduced and developed more rapidly than would otherwise be the case.

2. That the same privilege leads to the introduction and publication of numerous improvements, each of a minor character, but the sum of which contributes greatly to the progress of industry.' 174

(Although these paragraphs spoke of 'privilege' a later paragraph spoke of 'property created by the patent law'.¹⁷⁶ The stress throughout was on the utility of the patent system in encouraging invention - as opposed to a system of state rewards.)

The publication of the report was the decisive event in the retention of the patent system in some form. The Standard wrote:

'The select committee upon the principle and practice of the patent laws have inflicted a cruel disappointment on those who rashly anticipated that inquiry would involve abolition, almost as a foregone, and certainly as an inevitable conclusion. ... The committee distinctly and expressly recognize the fact that the influence of patent privileges has been largely beneficial.' 176

Even The Times which a few years earlier had predicted the swift demise of the patent system was forced to concede shortly after the publication of the Report in 1872 that 'though it [English Patent Law] has been assailed by very powerful opponents, popular opinion is certainly not ripe for its total abolition.'¹⁷⁷

With the realization, reluctant of course in the abolitionist quarter, that some form of patent system would be maintained, the question now was: how should the existing system be reformed? The 1872 Committee made specific proposals. The most important regarding the ambit of a patent was found in resolution 6 which provided that a patent should only be granted if (a) the application described the nature of an invention and its 'particular points of novelty' and (b) 'upon the report of a competent authority' that the invention was 'new' and was a 'manufacture within the meaning of the law'.¹⁷⁸ The effect of this resolution (and proposals about specifications contained in resolution 7) was that the Committee foresaw that a state bureaucracy in the form of the

'competent authority' would continue to, and indeed would increasingly, play a key role in the granting of patents.¹⁷⁹ In subsequent resolutions the Committee held that the existing Patent Commissioners could not perform this function and recommended that they be 'reinforced by the appointment of competent persons of legal, scientific, and technical experience, whose time is not occupied with other engagements to such an extent as to prevent their giving full attention to such administration.'¹⁸⁰ They also recommended that courts trying patent crimes be similarly assisted.¹⁸¹

Finally the Committee made two other proposals which proved to be important in the history of patent law. (a) They recommended that all patents have a 'working clause' i.e. that they should be subject to the condition that manufacture should be carried out within the United Kingdom.¹⁸² (b) In its final resolution the Committee recommended 'that there should be an assimilation in the law and practice in regard to inventions amongst the various civilised countries of the world',¹⁸³ but it did not spell out how this ought to be done.

The publication of the Report meant that the focus in the disputes about patent rights shifted away from an out-and-out battle between abolitionists and supporters of the system. Instead, it took the form of guerilla warfare with the abolitionists favouring a system where patents were as few and of as short a duration as possible and with the inventors (or at least their spokesmen) demanding patents as of right, which in practical terms meant patents granted on application without any form of examination. It was as a solution to this dispute that a 'bureaucratic' patent system eventually emerged. That it was still to take more than a decade is evidence of the intensity of the struggle.

Evidence of the differences which still existed can be found in the divergent reactions to the Report. The Times (still pro-abolitionist) concluded its reluctant acceptance of the Report by saying:

'We must be secured against frivolous Patents, and fraudulent Patents, and obstructive Patents, and Patents which are never brought to maturity after stifling the ingenuity of rival inventors, and Patents which are notoriously invalid, but which it would be too expensive to challenge in a Court of Law. This can only be done by strengthening the Patent Office, investing it with a large discretionary power, and facilitating the summary adjudication of Patent causes; and the scheme advocated by the Committee for the attainment of these objects deserves favourable consideration.'¹⁸⁴

In contrast to this attitude the supporters of the rights of inventors were hostile to the report even though it confirmed that the patent system would continue to exist. First reaction came from the Labour Representation League. At a meeting chaired by R M Latham (the secretary of the Inventors' Institute) on the 17th May 1872, 'much dissatisfaction was expressed with the report and the fact that members of the working classes had not been called to give evidence before the committee'.¹⁸⁵ A resolution hostile to the Report was unanimously supported. It stated:

'That the recommendations of the select committee of the House of Commons on the Patent Laws are by no means likely to benefit the most numerous class of inventors, namely, the artisans; and if carried into effect, would render the obtaining of a patent more difficult, cumbersome, and expensive than at present. Moreover, the committee's recommendations do not provide what the generality of inventors stand mainly in need of, namely, an assimilation, as far as practicable, of the laws affecting invention-right to those of copyright, and especially increased facilities for the obtaining by inventors of a valid property in their own inventions at a reasonable cost, as is now advantageously done in Belgium, France, and other countries whose patent laws are in advance of those of this country.' ¹⁸⁶

A similar attitude was adopted by the Inventors' Institute which commented that the Report appeared to them to have 'been distorted in order to favour the views of those persons who, finding themselves unable to obtain the abolition of the Patent Laws, are determined, if possible, to emasculate them'.¹⁸⁷

By 1872 therefore, one question had been settled, i.e. that the patent system should continue to exist. Other questions, such as the form of the patent system and attitudes which were to govern its implementation vis à vis new technology remained open.

VII. Conclusion

The defence of the patent system took place in a period of relative social stability and economic growth. In this period the patent system was debated more vigorously than in any other period in British history.¹⁸⁸ One is therefore able to follow the conflict between groups very clearly since, for the most part, their attempts to exercise power in order to advance their goals were open and deliberate.

A feature of this conflict is that it was not only about how the law should be shaped but at the same time was a conflict in which the (existing) law was

used as a resource. Thus, in Turk's terms, law in this period was clearly a source of 'ideological power'.¹⁸⁹ 'Legal' concepts such as property and contract were used by both sides, and competed for, since their legitimacy was established beyond doubt in the dominant common sense. At the same time, the existing patent law offered resources to contestants in some of the other spheres mentioned by Turk as well. The entrenched patent system was a source of economic power to the patent experts and perhaps also to a number of patentee-inventors who strongly defended the system. It is significant that in this period when the patent system was under vigorous but unsuccessful attack in Britain it continued to be used by increasing numbers of patentees. In the Netherlands, where similar attacks led to its abolition in 1869, a sharp decline in the number of active patentees preceded its demise.¹⁹⁰

Even although active participation in the debate about patents was largely limited to members of the dominant class the defence of the patent system cannot be understood solely in terms of an intra-class clash of interest groups. As has been noted groups or fractions competed for support outside the framework of the dominant class. The reason for this is that in order to establish the hegemony of their arguments they tried to gain acceptance for them in society as a whole. The relative success of the supporters of the patent system in achieving this meant that when, in a later period, economic circumstances changed so as to lead to a reconsideration of the principled opposition to patents they were in a strong position to dictate the shape of change.

CHAPTER 7 - THE TRIUMPH OF THE PATENT SYSTEM 1873 - 1883

I. Introduction

In the period after 1873 a major change took place in the general economic conditions which had prevailed in the two decades preceding it. The 'Great Victorian Boom' with its optimistic belief in economic progress and growth was followed by a slump, the so-called 'Great Depression', which lasted from 1873 until virtually the end of the century.¹

There is some dispute amongst scholars about the extent of the 'Great Depression' and about its effect on economic and social structures both in Great Britain and in Western Europe. It is now generally accepted by economic historians that it was 'far from being uniformly a period of stagnation'.² Some have gone so far as to doubt whether, in a purely economic sense, it is justifiable to speak of a 'Great Depression' at all - even although they concede that it was a period of economic uncertainty.³

Whatever the real extent of the depression the evidence is that contemporaries perceived the economic system as suffering from some malaise or crisis.⁴ Hobsbawm has argued that it is justifiable to use the term 'depression' to refer to 'a pervasive - and for the generations since 1850 a new - state of mind of uneasiness and gloom about the prospects of the British economy'.⁵ Landes too has graphically described the changed perceptions of economic reality:

'The years from 1873 to 1896 seemed to many contemporaries a startling departure from historical experience. ...The economic system appeared to be running down.'⁶

The change in the common-sense idea that economic progress could continue in perpetuity meant that other accepted common-sense ideas now became challengeable. One of these was the idea that 'free trade' would automatically produce prosperity. The concept of free trade was not abandoned but the idea that it implied a laissez-faire policy in which the state reduced its role to the absolute minimum was modified because of the crisis. A passage from a leading article in The Scientific and Literary Review (in which reforms of the patent system were demanded) illustrates this subtle shift of emphasis:

'It is our national manufactures that want reviving; therefore, no mere commercial shuffling of cards under the name of Free Trade, actually pushing foreign workmanship into our markets whilst pretending to give some facility to British manufactures, will be anything but injurious to us, even though the whole range of Political Windbags stand forward in its support.' 7

This change in the accepted common sense made it easier to justify state intervention in a crisis-stricken area of the economy.

The circumstances which underpinned the changes which were perceived as the 'Great Depression' were also directly significant in shaping the relationship between the state and the economy. According to one theory (which is advanced by Marxist writers) the tendency of the rate of profit to fall became manifest at this stage of the development of capitalism because the most readily accessible source of increased surplus, i.e. the intensive exploitation of labour, could not be developed any further. This then led to a crisis in capitalism in which the state was forced to intervene by means of legislative action.⁸

Critics of this approach, such as Musson, have argued that the thesis cannot be upheld because the economic indicators (rates of growth in various industries, output etc.) did not present a picture of an overall crisis in the economy.⁹ However, as Holloway and Picciotto point out, these critics often confuse the general predictions of Marxist theory with specific economic laws.¹⁰

The Marxist argument is not that there will be a 'falling tendency' in profits at any particular time, but rather that the inherent tendency exists which will manifest itself in a period of crisis unless countered. Holloway and Picciotto suggest that some reorganization of capital relations did take place in this period as a result of a (partially successful) attempt to counter the tendency of the rate of profit to fall. But they argue, that since such restructuring was done by the state it inevitably resulted in a blurring between the categories of 'the economic' and 'the political' - between private and public law.¹¹ In the final section of this chapter the applicability of their model to the control of new technology during this period will be considered.

Another (perhaps more specific) interpretation of the 'Great Depression' suggests that it was brought about by the fact that the 'simple' technological innovations which were made at the start of the industrial revolution and which

had produced spectacular rates of growth, had by the later 18th century worked themselves out.¹² This cannot be a complete explanation for the 'Depression', because technological innovation depends on other factors such as education, the ideological 'drive' to innovate, and investment in research and development. Nevertheless, the valid point is made that the unevenness of technological development could itself induce a measure of crisis.

It was in order to ward off the dangers and instability engendered by uncertain technological development that capitalists in this period began to pay more attention to new technology. As the century had progressed invention had become increasingly based on science. Systematic 'scientific' research and development required large investments. As Landes, referring specifically to the period after 1873, has noted:

'In general, there was a gradual institutionalization of technological advance. The more progressive industrial enterprises were no longer content to accept innovations and exploit them, but sought them by deliberate, planned experiment.' ¹³

In broad terms it can be posited that changed economic conditions after 1873 served to strengthen the position of the supporters of the patent system in two ways:

(A) As research aimed at the production of new technology became more widespread - in, for example, the chemical industries¹⁴ - it also became more expensive. Capitalists who in the past had opposed patents because they saw them as obstructive monopolies or because they hoped to acquire new technology without expense, now themselves had costly 'units' of technology which they wished to protect. The patent system, and, to a lesser extent, the system of registration of industrial designs provided legal means of doing so.

(B) The changes in the dominant common-sense attitude toward free trade made it easier for state organized control of new technology (by means of the patent system) to gain universal acceptance. Machlup and Penrose in their article, 'The Patent Controversy in the Nineteenth Century', regard this change in the climate of opinion as the key factor in the success of the campaign for the retention of the patent system. They ascribe what they call 'the rather sudden disappearance of the antipatent movement after 1873', to the fact that '[t]he idea of patent protection regained its public appeal when, after the crisis of 1873, protectionists won out over the free traders'.¹⁵ Seen in isolation, however, this is not a sufficient explanation, for it does

not explain why increased legitimacy for the patent system should have been the specific means adopted to deal with the control of new technology in a situation of economic crisis.

II. Developments in the existing patent system

The most obvious reason why the patent system was used as a means of combating (in the sphere of new technology) the crisis of 1873, was that it already existed as a viable system within the apparatus of the state. The state, or more accurately, the agents who manned its organs, had become accustomed to operating a patent system as a (perceived) means of encouraging technological development and thus of expanding the type of capitalist society in which they had a vested interest. In time of stress therefore, they could be expected to attempt to improve (and thereby institutionalize) the existing well-tried system.¹⁶ In addition the patent system was backed by an enthusiastic body of supporters who had demonstrated that they could gain a measure of acceptance from members of all social classes for their ideological justification of it.

In the immediate post-1872 period the acceptability and efficiency of the patent system were further increased by reforms, emanating from within the state apparatus, which did away with some of the pre-modern elements of the system not removed by the changes of 1852. One of these was the abolition, shortly after the report of the 1872 Committee, of the practice whereby the Patent Commissioners were remunerated for all their various duties as Law Officers of the Crown from the fees paid by patentees.¹⁷ Even although this change did not lead to an immediate reduction in the overall cost of patent application (the fees were paid into the consolidated revenue account) it was an important symbolic change. The status of the commissioners vis-à-vis the patent system now became the same as that of any other bureaucrat expected to perform rationally the duties entrusted to him. An important point of criticism, that the patent system enabled a few specific members of government to profit from the fees paid by patentees, was removed.

Two other administrative changes deserve mention. In 1875 the administration of the Designs' Acts was incorporated in the Patent Office,¹⁸ as has been seen above, the bureaucracy which performed this task was of relatively recent origin and geared specifically to the effective application of the Designs' Acts. It therefore added an important element of purposive rationality to the tradition-bound Patent Office.

Of equal significance was the appointment to the Patent Office in 1878 of a scientifically trained indexing staff.¹⁹ Whilst the compilation of indexes of inventions had been one of the achievements of the post-1852 patent administration, the 1878 changes opened new possibilities. A body of officials who could determine whether patents in fact complied with both the procedural and substantive requirements of patent law had been created. The potential thus existed for the patent bureaucracy to carry out 'rationally' the demands which patent law might place on it.

Finally, the court system, through which patent rights were enforced by means of actions against infringers, was reorganized in 1875.²⁰ Actions remained part of the civil law. Trials by jury were eliminated and the patent action came to be treated largely as a question of the construction of documents.²¹ This change served to defuse criticism that the enforcement of patent rights was a gamble because a jury would not be able to comprehend the technical issues involved. At the same time it served to isolate further the public from the whole process of patent law - leaving it entirely in the hands of legally trained experts.

III. The international patent congresses

In the period during which supporters of the patent system had been on the defensive, abolitionists were able to gain ideological support from actions of opponents of patents in European countries. In the 1870's this support became less vociferous. The proponents of the system were able to argue that there was an international trend in favour of patents and that this trend found its expression in a series of international congresses at which international patent arrangements were discussed.

The move towards such arrangements can be related to the fact that the more complex new technology was increasingly being exploited on a trans-national basis. As Penrose, speaking of conditions in industrialized countries in the latter half of the 19th century, has noted:

'Commercial interests are no respecters of national boundaries and while the laws of each country prevail only within the jurisdiction of that country, the interest of the patentees in the use of their inventions frequently extends beyond the jurisdiction of any one country.'²²

The matter came to a head with the Austrian International Exhibition of 1873. Various exhibitors felt that the Austrian patent system did not provide sufficient

protection for their exhibits which would lose their novelty throughout the industrial world by being made public. As a result of diplomatic pressure, particularly by the American government,²³ amendments were made to the Austrian patent law, so that exhibits would be protected in Austria at least. At the same time an International Patent Congress was convened to coincide with the exhibition. The Congress can best be described as semi-official. The delegates did not formally represent governments but instead interest groups within nation states. Thus the British delegation included, for example, Dr Collyer, representing the Inventors' Institute,²⁴ Thomas Webster, representing the Patent Commissioners, but not, it was explained to a sceptical House of Commons, the British government;²⁵ and George Hazeltine, a leading London patent agent.²⁶

At the same time the anti-patent movement was still active in Europe.²⁷ Among the delegates to the Congress were included a number of German opponents of patents.²⁸ It was therefore of symbolic importance that this 'international body' explicitly rejected the abolition of patents, deciding in its first resolution:

'The protection of inventions is to be guaranteed by the laws of all civilised nations because: [the first of seven reasons] (a) The sense of right of civilised nations demands the legal protection of intellectual work.' 29

In its third resolution the Congress took the first step towards an international agreement on patents. It stated:

'In consideration of the great difference between the existing patent laws, and in consideration of the altered state of international communication, the necessity of reform becomes evident, and it is to be strongly recommended that the different Governments should endeavour to arrange, as soon as possible, an international understanding on the patent laws.' 30

The Congress held in Vienna undoubtedly served to strengthen the reformist cause in Britain. The proceedings of the Congress were widely reported in Britain³¹ and a British committee, the London Committee of the International Congress of Vienna, was established to propagate the idea of international co-operation in the sphere of patents.³² The proceedings at Vienna provided a basis for discussion at the meeting of the British Association at Bradford in September 1873.³³ This was followed by a meeting of the Bradford Chamber of Commerce.³⁴ The initiative of the Bradford

Chamber in turn led to action within the Associated Chambers of Commerce. In March 1874 the Associated Chambers of Commerce 'assisted by London Members of the Executive Committee of the Vienna Patent Congress' sent a deputation to the Foreign Secretary 'to advocate the assimilation of the patent laws of all countries by an international convention'.³⁵

The deputation was coolly received by the Foreign Secretary, Lord Derby³⁶ (who, as Lord Stanley, had expressed his personal opposition to patents five years earlier³⁷) but attempts to gain support for some form of international patent system continued. In 1875 the English patent agent, W Lloyd Wise, read a paper on the assimilation of the patent laws of different countries before the Association for the Reform and Codification of the Law of Nations in The Hague.³⁸ This Association then appointed a Committee to investigate the matter. It reported to the meeting of the Association in Bremen in the following year, that it 'considered it abundantly established by experience that it is for the commercial interest of every nation to grant protection in the shape of patents to inventors'.³⁹ The Committee recommended that the proposals of the 1873 Congress in Vienna be used as a basis for international agreement on patents. At the conference of the Association held at Antwerp in 1877 specific proposals were presented.⁴⁰ The Association for the Reform and Codification of the Law of Nations was a body concerned not only with patent law but with law reform in general; but the fact that it took up the question of patents in international law at this juncture provided further support for the notion that patents were almost universally accepted and acceptable.

In 1878 a second major international patent law congress was held in Paris. It was sponsored by the French government but was of the same 'semi-official' status as its predecessor of 1873.⁴¹ As in Vienna an important function of the Congress was to demonstrate the acceptability of patent law. It did so by incorporating in its first resolution the ideologically charged concepts of a natural property right in inventions. It resolved:

'The right of inventors to their works... is a right of ownership; the civil law does not create it, but only subjects it to regulation.' 42

This formulation was adopted after lengthy debate. It was opposed inter alios by the Swiss delegate who suggested that the congress should stress that patents were a creation of civil law but a justifiable compromise between the rights of the inventor and the public.⁴³ (Switzerland did not

have a patent system at the time.⁴⁴) The decisive defeat of the Swiss standpoint suggests that the resolution was formulated in terms of property rights in order to increase its ideological impact. Certainly it was interpreted in this way by the delegate of the Inventors' Institute who later told the Institute's annual dinner, amid loud applause, that the resolution 'recognise[d] that invention was the seed corn of industry, and required and deserved as much protection as the seed corn of our harvest has always received from an intelligent government'.⁴⁵

In its concrete proposals the Congress could not reach unanimity on a universal patent law. Penrose has explained that 'the conference was obliged to recognize the realism of those who had insisted that uniformity was impossible in a world of national states with different interests, different legal structures and different economic histories, aspirations and ideologies'.⁴⁶ A Commission appointed by the Congress therefore produced more modest proposals for an international convention which would preserve national patent systems but would make provision for some measure of reciprocity.⁴⁷ The further history of these proposals in the 1880's will be considered below. The significance of the International Congresses in the 1870's lies primarily in the ideological support they provided for the permanent acceptance of national patent systems.

IV. The final rounds

The defeat which the abolition movement suffered in the findings of the 1872 Committee of Inquiry; the changed economic circumstances and the concomitant shift in the dominant common sense; the removal of 'obvious' abuses from the existing patent system; and changed climate of foreign opinion on patents all made it clear that outright abolition of the patent system was, for both instrumental and symbolic reasons, not a realistic alternative for the opponents of the patent system. The patent system would, they reluctantly admitted, remain a factor in the control of new technology in the foreseeable future. The topic had, in the words of a correspondent to The Times become 'a practical question'.⁴⁸

A. De facto abolition

Yet, the possibility of de facto abolition remained. In other words a patent system could be created in which the requirements for patentability were so strict that the bulk of economically significant new technology was

excluded from it, or the cost of patents could be made very high (although perhaps this was not a realistic option because of the demand for cheap government), or the rights of patentees could be diminished by a system of compulsory licences for other users.

The first response by the government to the proposals of the 1872 Committee of Inquiry, which came early in 1875 in the face of growing agitation for reform from the same groups which before 1872 had composed the reformist hegemonic sector,⁴⁹ demonstrated that the option of de facto abolition was still seriously considered and that no real consensus had yet been reached about what protection the patent system should offer 'possessors' of new technology. In his speech introducing the first reading of the government's comprehensive 'Patents for Inventions Bill', the Lord Chancellor, Lord Cairns, accepted that the decisions of the 1872 Committee and the 1873 International Patent Congress were 'great landmarks' which had to be followed.⁵⁰ Nevertheless, he rejected an argument that 'an invention be property' as a 'palpable fallacy',⁵¹ and went on to propose a system which would restrict patents in every possible way: Fees would not be reduced.⁵² A body of unpaid scientific referees and a number of trained, full-time examiners would be added to the existing Patent Commissioners so that they could examine applications strictly to see whether they described legally patentable inventions.⁵³ Patents not worked within two years would be subject to recall, i.e. could be cancelled.⁵⁴ The normal period of patent protection would be reduced from fourteen years to seven years.⁵⁵ The patentee would be forced, on pain of having his patent revoked, to grant licences on 'reasonable' terms so that a 'proper supply' of the patented article might be maintained, i.e. a system of compulsory licences would be introduced.⁵⁵ The Lord Chancellor supported his specific proposals by describing the operation of an extended patent system in the anti-monopolist tone adopted by the abolitionists:

'I cannot imagine anything more serious to the manufactures of the country than that 4,300 drag-nets, more or less, should be annually spread, every one of them curtailing to some extent the area of those manufactures, and every one of them exposing manufacturers to litigation, or, perhaps, to the payment of blackmail if they would escape the irksome process of litigation for an alleged infringement of patent-right.' ⁵⁷

Not surprisingly such a Bill was enthusiastically received by the diehard opponents of patents. It passed its second reading in the House of Lords with strong support from Lord Selbourne (formerly Sir Roundell Palmer) and Lord Granville - both long-standing opponents of state control of new technology.⁵⁸

Both men were quite frank that they were supporting the Bill because it was a desirable first step on the road to abolition.⁵⁹ The Bill passed swiftly through all its stages in the House of Lords and was sent to the House of Commons.⁶⁰

Outside parliament the Bill was also supported by abolitionists.⁶¹ Amongst them was The Times which made it clear that it supported the Bill only because it would curtail the effects of the patent system and it was hoped, lead the way towards eventual abolition. It wrote:

'The reduction in the number of Patents will operate to liberate manufacturing industry from many of the fetters the present system imposes on its development, but we are by no means satisfied that what is proposed to be done will be found sufficient or can be permanently maintained. The experiment must be tried, and the course of its working may perhaps indicate the steps yet to be taken which shall make new inventions freely available as soon as they are invented concurrently with the reservation of those royalties or privileges which are due to the inventor.' ⁶²

The supporters of the patent system were quick to perceive the dangers which the Bill held for patentees. The Pall Mall Gazette saw the Bill as an attack on inventors as a 'class'. It wrote:

'It [the second reading of the Bill] made it clear enough that recognizing the issue raised as essentially one between inventors and manufacturers they would by no means permit a generous sympathy with genius to weaken their natural veneration for capital, and that they [the members of the House of Lords] would not for a moment allow the pretensions of the former to stand in the way of the interests of the latter.' ⁶³

Interpretations of the Bill in this ideologically loaded way, in the Pall Mall Gazette and other newspapers and journals,⁶⁴ served to mobilize sectorial support for the patent system. As in the earlier defence of the system, patent experts played a prominent role in co-ordinating the reaction.⁶⁵ Petitions protesting against the Bill were submitted - inter alia by the Society of Arts and by the Inventors' Institute, supported by the Artizans and Inventors' Committee.⁶⁶ On 25 May 1875 a conference on the new Patent Law Bill was held at the rooms of the Society of Arts.⁶⁷ The broad spectrum of representatives demonstrates to what extent patent reform was able to claim support from different classes and different fractions within classes. Represented were the London Patent Agents' Committee and the Institute of Civil Engineers (professional); the Society of Arts and Inventors' Institute (middle class with some aristocratic patronage); the Parliamentary

Committee of the Trades Congress, members of various Trades Councils (Manchester, Rochdale, Preston, Oldham, Sheffield, Walsall and Liverpool), and representatives of various trades (working class).⁶⁸ The meeting strongly condemned the Bill as inimical to the interests of inventors. At the same time the participants were keen to stress that they were not only concerned with the interests of a particular section. In their first resolution they held 'that if [the Bill] passed as it now stands it will work injury, not only to inventors, but also the industrial progress of the country'.⁶⁹

In the face of this widespread opposition the Bill was allowed to die quietly in the House of Commons.⁷⁰

In 1876 a substantially similar Bill was introduced in the House of Lords.⁷¹ It made two concessions to the opponents of the 1875 Bill: The 14 year duration of patents was reinstated and the proposed referees were dropped.⁷² Once more the Bill was passed in the House of Lords - although after far less debate than the previous year.⁷³ Once more the opponents of the Bill organized and petitioned parliament.⁷⁴ Once more the Bill was allowed to die in the House of Commons.⁷⁵ The opponents of patents had been forced to give some ground in their efforts to have a restrictive patent system introduced but no real compromise had been reached.

In 1877 the (Conservative) government made a third attempt to introduce a restrictive patent system - in this instance by means of a Bill introduced by the Attorney-General in the House of Commons.⁷⁶ This Bill was even less successful than its predecessors, never reaching the stage of debate - its second reading postponed no less than eighteen times before it was finally withdrawn.⁷⁷ It was heavily criticised by the organizations which supported patent reform.⁷⁸

The legislative attempts from 1875-7 demonstrate clearly that the depression of 1873 did not immediately result in a comprehensive reform of the patent system of the kind which would greatly increase the number of patents. The fact that the government tried to achieve just the opposite shows that the desire to abolish patents had not disappeared. The failure of the legislation can be attributed to the growing power of the reformists.

B. Towards legislative compromise

In the achievement of legislative compromise private members' bills were to play a large part. Eighteen-seventy seven saw the introduction by Mr

Anderson, MP for Glasgow, of the first such Bill since the report of the 1872 Committee of Inquiry.⁷⁹ The main object of this Bill, which received some support from the Inventors' Institute,⁸⁰ was to decrease the fees payable by patentees, but it also aimed at other improvements such as the lengthening of the duration of a patent from fourteen to twenty-one years.⁸¹ It made no progress in parliament in 1877, but was re-introduced annually in the following six years.⁸²

The move towards compromise was underpinned by the changed common-sense attitude to state intervention in economic activity. To some extent this is apparent in the 1875-7 attempts at legislation where even outspoken abolitionists did not feel that it was politically possible to have the state withdraw completely from the control of new technology. As the decade progressed reformers constantly called on the state to intervene in the economy by encouraging new technology by means of a more liberal patent system.⁸³ This call for stimulation of new technology was also taken up outside the circles of the established patent reformers. A significant volte-face was that of The Times in 1878. Commenting on the Paris Congress on international patents of that year, it rehearsed the arguments against patents.

'But [it concluded] want of natural right and questions of practical inexpediency have been altogether overruled by the demonstration of the general utility of a patent law to manufacturing interests themselves. The bribe of a patent is proved, especially by the example of the United States, to be so extraordinarily stimulating to ingenuity that the public has resigned its title to forbid monopolies.' 84

In effect The Times was here making explicit what had been implicit throughout the post-1873 period: a movement of the fractions of capital which had opposed patents towards accepting them in changed economic conditions. The change was also apparent in other countries, most notably in Germany where Bismarck's opposition to patents in the previous decade had been overcome by changed attitudes, particularly in the chemical industry, and legislation to reform the patent system was introduced in 1877.⁸⁵ The form of the recantation by The Times is important as well for it indicates that, in Britain at least, arguments of principle, of natural law, had not triumphed. They had not been abandoned by enthusiastic supporters of the patent system but had simply been pushed aside by those who wished to

support the patent system for pragmatic reasons. It was this new-found flexibility which opened the way for legislative compromise.

The change did not manifest itself immediately. A Bill introduced by the government in 1879⁸⁶ was still received fairly critically.⁸⁷ It was not condemned as strongly as its predecessors by patent professionals⁸⁸ but was nevertheless withdrawn without debate.⁸⁹ The roots of compromise are apparent in the attitude of the Society of Arts to the 1879 Bill. In its annual report the Society noted that the Bill was unlikely to be reintroduced during that session.

'However, [the report continued] the feeling of the Council [of the Society of Arts] was, that this [1879] Bill being so great an improvement on former attempts in the same direction, it was probable that if some pressure were put on the government, a still better measure might be introduced at some future period; they therefore felt it their duty to impress upon the Home Secretary the views they entertained.' 90

Only in 1881 did the first major sign of compromise appear in a debate in the second reading of the (private member's) Anderson's Bill which had been prepared annually since 1877.⁹¹ Speakers were generally sympathetic to its major proposal that fees ought to be reduced (although Chamberlain, the main government spokesman, doubted whether the patent office would function on half its income).⁹² 'Ideological' disputes about the 'legal' nature of patents were largely ignored and the antagonisms between 'the manufacturer' and 'the inventor' which had featured so largely in earlier debates were played down. The Bill was allowed to progress to the stage of a second reading.⁹³

In 1882 a second private member's Bill sponsored by the Society of Arts was introduced by Sir John Lubbock.⁹⁴ Neither Lubbock's Bill nor Anderson's Bill⁹⁵ was debated on its merits and they were both allowed to lapse because insufficient parliamentary time was made available.⁹⁶

These private members' Bills are significant for they indicate a direct involvement in legislation of the bodies which had long advocated reform of the patent system. Indeed Sir John Lubbock argued at the second reading of the Bill that a detailed discussion was unnecessary as it would surely be incorporated in the government's future legislation.⁹⁷

Organizations other than the Society of Arts who were directly involved in shaping these private Bills were the British Association and the 'Inventors'

Institute. The former appointed a watchdog committee which co-operated closely with the Society of Arts and made representations to the government.⁹⁸ (Sir John Lubbock who introduced the Bill was the 1882 President of the British Association and Dr Siemens was 'one of the Society of Arts Committee which prepared the Bill' as well as a member of the British Associations Committee.⁹⁹ The Inventors' Institute supported Anderson's Bill.¹⁰⁰) The result of these activities was that the gap which had existed between reformers and legislators in the 1875-7 period, was bridged.

C. Compromise achieved

Finally, in 1883, the (Liberal) government brought forward a Bill intended to reorganize comprehensively the law relating to Patents, Designs and Trademarks.¹⁰¹ In parliament its discussion took precedence over the two private members' Bills.¹⁰² The parliamentary debate which followed set the seal of public approval on the patent system (together with the system of registration of designs) as the 'obvious' way in which to organize the control of new technology.¹⁰³

The changed attitude towards patents is apparent from the speech of Chamberlain who, as President of the Board of Trade, introduced the second reading of the Bill on behalf of the government.

'He did not think it necessary to argue at any length in favour of a Patent Law; but he might remark that in recent years there had been a very great change of opinion on this subject. [Having outlined the history of this change, Chamberlain continued] He might proceed, then, on the assumption that the House would grant the necessity of a Patent Law.' ¹⁰⁴

In the debate that followed the principle of a cheap and efficient patent system was accepted by all the participants. Samuelson, who had been Chairman of the 1872 Committee, declared that in the past some persons had been 'opposed to patents altogether, but that school was now defunct'.¹⁰⁵ Another speaker went even further, contending that 'the general question as to the expediency of granting patents was not, at the present moment, a practical question; in the present state of opinion it was a question more fit for a debating society than for the House of Commons'.¹⁰⁶

The Bill passed through all its stages in the House of Commons, and was sent to the House of Lords,¹⁰⁷ where the Lord Chancellor, Lord Selbourne, had to present it on behalf of the government. This was ironical because, as

Sir Roundell Palmer, he had been an outspoken opponent of patents.¹⁰⁸ Admitting that his opposition to patents was well known, he noted that 'nearly 20 years had elapsed [since he had proposed the abolition of the patent system] and public opinion had not yet proved favourable to any change in that direction'.¹⁰⁹ In spite of the expressed doubts of its proposer, the Bill passed swiftly through the House of Lords and became law on 25 August 1883.¹¹⁰

The acceptance of the legislation by parliament and by the press was almost uniformly favourable.¹¹¹ Criticism such as there was, was technical and muted.¹¹² A compromise had been achieved in which patents were no longer a source of public controversy. The content of the compromise, outlined in the following section, provides some insight into what had become the significant forces in the law relating to new technology.

V. Changes brought about by the 1883 legislation and related developments

The Patents, Designs, and Trade Marks Act, 1883, which came into effect on 31st December 1883,¹¹³ placed the administration of the law relating to new technology within a national bureaucratic framework. In the words of Boehm, the author of the standard text on British patent administration: 'The 1883 Patents Act marks the beginning of modern patents administration'.¹¹⁴

The key to the reorganization was the appointment of a full-time official, the comptroller, to take over the administrative control of the Patent Office from the Commissioners of Patents.¹¹⁵ The comptroller who, as a civil servant, served under the Board of Trade, was assisted by a body of full-time, specialist examiners.¹¹⁶ The examiners had a statutory duty to examine

'whether the nature of the invention has been fairly described, and the application, specification, and drawings (if any) have been prepared in the prescribed manner, and the title sufficiently indicates the subject matter of the invention'.¹¹⁷

They were to report their findings to the comptroller who could accept or refuse the application or order amendments to be made to it.¹¹⁸ The comptroller could also decide whether complete specifications were substantially similar to the provisional specifications submitted with the initial applications¹¹⁹ and he could adjudicate opposition proceedings¹²⁰ - i.e. proceedings in which an interested party wished to oppose the granting

of a patent. The comptroller had similar powers to allow or refuse the registration of industrial designs.¹²¹

Although the decisions of the comptroller were appealable to the Law Officers of the Crown¹²² (or to the Board of Trade in the case of designs),¹²³ the effect was that the primary decisions on whether a patent or design complied with legal criteria were now made within the administration. The framework was therefore created whereby the state, through its bureaucratic agents, could determine which units of technology to protect. As introduced in 1883 the powers of the comptroller and his examiners were limited to relatively formal criteria but the specialist technical background enabled them later to conduct limited investigations into the novelty of new patents and so gradually to reduce the role of the courts primarily to the trial of infringement.¹²⁴

The drastic changes in the administration of patents were not paralleled by changes in substantive law. The definition of an 'invention' remained unchanged. The 1883 Act merely defined it as 'any manner of new manufacture the subject of letters patent and grant of privilege within section six of the Statute of Monopolies'.¹²⁵ This definition allowed the existing body of judge-made law on the question to be perpetuated and developed further.¹²⁶

Procedural changes could, of course, affect substantive law. Thus s 5 provided for the first time that 'a complete specification must end with a distinct statement of the invention claimed'. In practice this meant that the determination of the scope of the invention now became a legal question of documentary interpretation rather than a question of fact. The result was that a whole body of law dealing with the interpretation of patent claims has been created since 1883.¹²⁷ It is not clear what direct effect this has had on the patentability of inventions, but it has increased the power of patent law experts to define the content of patent protection.

On the face of it, the Act did not accede to all the demands made by - or on behalf of - inventors. Property rights in patents were nowhere mentioned. The prerogative of the Crown to withhold the grant of a patent was maintained as a legal form¹²⁸ thus implicitly denying a 'natural right' to a patent. The period of patent protection remained unchanged at 14 years¹²⁹ thus making no concession to the idea that inventors should have 'perpetual property' in their patents. Fees were reduced but the 'steeplechase principle',

whereby stiff renewal fees were imposed after a number of years, was retained.¹³⁰ Provision was made for compulsory licences thus further limiting the 'right' of a patentee to do with his property as he wished.¹³¹

In practice would-be patentees appear not to have been deterred by any limitations in the reforms. A rush to patent took place after the introduction of the new Act.¹³² Boehm has argued that '[a]fter 1883 there is a strong presumption that the barriers against applications had so far been lowered that the number of patent applications approximated to the number of patentable inventions for which patent protection was wanted'.¹³³ It is impossible to find direct evidence to support this argument but the dearth of argument, against the specific provisions of the 1883 Act, based on 'principle', suggests that would-be patentees were fairly satisfied with the operation of the patent system.

Two related developments during the same period served to confirm the permanence of the patent system as a means of controlling new technology:

(A) In 1883 Britain became a signatory of the International Convention for the Protection of Industrial Property.¹³⁴ This Convention was the product of the 1878 Paris Congress. It did not directly shape the British patent system as it did not create an 'international patent' as had initially been envisaged. Nevertheless, the right to priority granted to applicants who had already applied for patents in other states¹³⁵ and the reciprocal status to be granted to foreign nationals¹³⁶ served to demonstrate the virtual universality of patents.¹³⁷

(B) In 1882 the Institute of Patent Agents was founded.¹³⁸ It replaced the smaller organization of London Patent Agents and gradually took over from the ailing Inventors' Institute as the source of 'informed opinion' on patent matters. The aim of the Institute of Patent Agents was to consolidate the profession and reinforce its powers vis-à-vis its clients. As its first chairman J H Johnson explained in his inaugural address:

'[O]ur desire [is] on the one hand, to provide a check against all irregularities in professional practice, and, on the other hand, to secure to the members of the Institute that fair consideration from their clients to which they are entitled.' ¹³⁹

The Institute consolidated its power soon after the 1883 Act had greatly increased the demands for its services.¹⁴⁰ In 1888 an Act of Parliament gave it a measure of legal control of patent agents.¹⁴¹ In 1891 its prestige

was enhanced by the attainment of a Royal Charter.¹⁴² The reinforcement of the status and power of patent agents and the acceptance of the patent system went hand in hand.

VI. Conclusion

The decade before 1883 saw a significant change in the economic conditions which had underpinned the rise of the abolitionist movement in the preceding period. The result of this crisis (a crisis at the very least, of confidence) was that policies of extreme free trade lost some of their attractiveness in theory and were modified in practice.

Under these conditions the ideological sector which had proposed the abolition of patents lost support from the hegemonic common sense; for extreme laissez-faire had been an important part of its ideological justification for the abolition of patents. It also lost support for instrumental reasons as the priorities of some fractions of capital moved from efforts to limit technological innovation or to appropriate technological advances without compensation, to programmes of systematic technological development. The abolitionist movement declined until, by the end of the decade, it could be disregarded.

Assisted by the demise of the abolitionists the hegemonic sector which had propagated a 'national(ised)' patent system demonstrably succeeded during this decade in having its ideology accepted as 'common sense' by all classes in society. This did not, however, mean that the concepts which it deployed were carried to their logical conclusion. Inventors were not granted absolute rights to or in patents. Instead a 'bureaucratic solution' was produced.¹⁴³ Through the introduction of rational bureaucratic procedures a compromise was achieved which enabled the state to provide machinery which granted large numbers of inventors relatively effective monopolies, without making any fundamental decisions on the 'true nature' of a patent. Concepts such as natural property rights were still used on occasion for ideological impact but without their content being considered seriously. To put the same proposition in another way: In this period of the acceptance of the patent system the legal form of the control of new technology ceased to be a significant issue: it was replaced by a bureaucratically delimited right. The legitimation of patent law thus followed the general pattern outlined by

Weber in which a reformist concern for natural law is replaced by (legal) positivist respect for formal legal rationality.¹⁴⁴

Obvious beneficiaries of this 'solution' were the patent experts, who, as a profession, managed to place themselves in an impregnable position to mediate the relationship between inventor/capitalist and the state in the sphere of new technology. They managed to preserve this position - assisted by the fact that since 1883 they have had to deal with specialized bureaucrats (the examiners) who also operated within the esoteric framework of the rules of patent law.¹⁴⁵

At a 'macro' level (if it is accepted that there was a 'crisis' in the decade after 1873) there is evidence to support Holloway and Picciotto's developmental model of the role of the state. After a period of crisis state intervention was reorganized and intensified. The patent system was made more efficient and presumably, since the number of applications increased, served to control more technology. Public officials (the Comptroller and the examiners) played a large part in determining the private rights of individuals to own patents. State intervention had effectively increased in a period in which the dominant common sense, as a general rule, still supported the notion that the state should not intervene in the economic sphere.

The form of intervention cannot be explained only by the crisis of the 1870's. The patent system was, as has been seen, the product of long historical development. The acceptance of the reformation of the patent system (after a relatively long delay) as the response to the crisis in the sphere of new technology must be understood as a response orchestrated by a strategically situated hegemonic sector (the patent reformers, led by the patent experts) who seized the opportunities for change provided by the perceived economic crisis.

The immediate popularity of the reformed patent system suggests that state intervention of this kind was not entirely opposed to the interests of capitalism in general. Clearly many capitalists thought that patents were worthwhile investments. The point was not lost on a leading inventor/entrepreneur of the day, Sir Charles Siemens, who had suggested, prior to the enactment of the 1883 legislation, 'that if a patent [an invention] were found lying in a gutter, it would be in the interest of the State to take it up and assign an owner to it in order that it might be worked'.¹⁴⁶

The significance of the paradox, that indirect state intervention in the control of new technology might be an essential basis for its exploitation in an advanced capitalist system, will be considered in the concluding chapter.

CHAPTER 8 - CONCLUSION

I. Further history : a brief résumé

The development of the national British patent system after 1883 seems to confirm that the legislation of 1883 marked the general acceptance of the patent system as the common-sense way of apportioning control of new technology. While it is not the object of this section to describe these developments in detail some of them are highlighted in order to round off the historical analysis.

Patents continue to be used as a primary means of controlling new technology. Thus in 1960 there were approximately three times as many patent applications and 'sealings' (patents granted) as in 1885.¹ An empirical study conducted in the late 1960's shows that in certain sections of industry patents are still the key legal instrument in the control of technology.²

In the 20th century parallel institutions to the patent system other than the registration of designs came to play a role in the control of new technology. Although the registration of designs, in much the same form as it was cast by the 1883 Act, is still used, it has increasingly been joined by the law of copyright and of trade secrets.³ Copyright in machine drawings has become intertwined with the registration of designs.⁴ The law of trade secrets, which had not really developed in the 19th century, has expanded to give employers an increasing sanction against employees who might wish to market their employers' (unpatented) technology.⁵ These changes have not led to a diminution of the importance of patents. Instead patent professionals now tend to be experts in industrial property with additional legal resources for protecting their clients' interests in new technology. Patents remain the core of this protection.⁵

The importance and influence of professionals, i.e. bureaucrats (patent examiners) and lawyers (patent barristers and agents), in the operation and development of the patent system has grown. In the daily operation of the system patentability is increasingly being decided by the professional skill of the patent examiner. Since 1907 they have conducted both a formal examination and a limited examination into the novelty of an invention for which a patent is sought.⁷

Although the validity of a patent remains to be determined by the courts, in practice even after this limited examination, very few patent applications are accepted without being referred back to the patentee.⁸ The complexity of this process means that a would-be patentee himself needs professional assistance: A recent 'practical' text notes:

'[I]f a patent is worth applying for at all, the difference made by practised drafting of the specifications and skilled negotiation with the examiner will be worth far more than a patent agent's fees.' ⁹

Changes introduced by the Patents Act 1977¹⁰ further increase the power of the examiner. This Act retains the national British patent system but in addition makes provision for an EEC patent and a European patent.¹¹ Although the British Patent Office will continue to function, a large part of the examination duties are being transferred to Munich. The new examinations, both those in London and those in Munich, are more rigorous, apply more criteria¹² and are more expensive¹³ than those done by the British examiners prior to 1978. The result will probably be that eventually the validity of all patents will be determined bureaucratically by examiners - with the courts concentrating on infringement proceedings. The professional power of the bureaucratic patent experts undoubtedly continues to expand.

Patent lawyers and patent agents have retained their power as well - at least in part because their skills are required in the negotiations with the bureaucrats. Other techniques of professionalization have also been used. Their professional organizations have retained their virtual monopoly on patent practice.¹⁴ Admission to the profession of patent agency is controlled by a system of examination.¹⁵ Their body of knowledge, the law of patents, has remained esoteric - inaccessible to laymen. Important concepts remain embedded in the law developed by judges in long lines of complicated precedent. Legislative innovation has not changed this position. Thus, for example, the 1977 Patents Act introduced the first comprehensive definition of a patentable invention. Until then the definition of s 6 of the Statute of Monopolies, 'any manner of new manufacture', had simply been reproduced and a body of case law which extended and refined it, followed.¹⁶ The new definition, although it is phrased in a more modern way - that which is new, involves an inventive step, is capable of industrial application and is not specifically excluded from patentability¹⁷ - still requires to be applied

by a lawyer. Several of the concepts only have meaning in the light of interpretations given them by existing case law.¹⁸ There are indeed indications that the 1977 Patents Act, because of its 'enormous complexity',¹⁹ makes the lawyer an even more essential figure than before in the creation and defence of units of new technology.

The dominance of the professionals in the operation of the system has been reflected in the way in which change and development have taken place. Although the primary pressure for the introduction of the Patents Act of 1977 came from multinational corporations who wanted simultaneous and effective control of new technology in several countries,²⁰ the actual form of the changes and even the ideology on which they were based were directly derived from expert opinion.²¹ In spite of the fact that the 1977 Patents Act introduced the most far-reaching changes in the law of patents since 1883 the hegemonic acceptance of the system was not challenged. The Commission of Inquiry which investigated the Patent system,²² the negotiations with European countries²³ and the extensive parliamentary debates²⁴ which preceded the legislation, were all dominated by patent experts who successfully claimed that reforms were technical matters. The result is that they have been able to dictate specific changes and infuse the process of change with their professional ideology.

Aspects of the patent system have been the subject of public debate. Supporters of the system remain sensitive to the charge that it creates monopolies. The provisions of the 1883 Act for compulsory licences if a patent was not being worked adequately have been retained. These provisions were extended in 1949.²⁵ In practice, however, compulsory licences are relatively rarely granted.²⁶ This suggests that their function might be largely cosmetic. One aspect of compulsory licencing became a political issue in the 1970's. The 1949 Patents Act made specific provision for compulsory licences for the production of patented drugs and foodstuffs. The eventual removal of a similar provision in the 1977 Act in spite of the initially stated intention of the Labour government to retain it, followed sustained pressure from the pharmaceutical industry.²⁷ This dispute revealed that fractions of capital could still be directly involved in shaping the patent system. The other potentially explosive modern issue, the right of employees to share in the patents which they produce for their employers, has been discussed²⁸ but has not become a major political issue.

The comparative rarity of these disputes and the fact that the public debate about them accepts the continued existence of the patent system as a common-sense reality, serve to underline the hegemony which still exists on the whole matter of patents. The patent system in general is not perceived as an issue to be discussed in class terms. Abolitionists who still occasionally raise arguments about the contradictions inherent in state intervention in the control of new technology are virtually dismissed as cranks.²⁹

In the expansion of patent protection on an international basis these contradictions appear afresh. It is a problem for those who wish to create a free market economy within the European Economic Community. Thus a recent book entitled Industrial Property and Copyright in European Community Law notes:

'According to Article 2 of the EEC Treaty the creation of a common market is an objective of the Community. However, industrial protection rights, i.e. patents, plant varieties protection, utility models and designs protection, trade marks, copyright and related rights, in their traditional form conflict with this objective.'³⁰

Significantly it sees the solution to the conflict in the creation of new legal forms rather than in the removal of accepted state intervention of this kind.

In sum: the modern patent system grants protection for a longer period (20 years), can be more easily extended to other countries, is more thoroughly examined by the state, and is more expensive than its 19th century forerunner; but is essentially still the same form of legal protection, subject to the same philosophical difficulties and justified by the same arguments, although the pressures for change might now be coming from multinational rather than national capitals.

II. A theory of technological commodities

In its modern form the patent system is found in all capitalist states. For practical purposes there is no internal patent law in socialist states.³¹ In developing countries patent systems provide a framework for the sale of technology to them. They do not serve to stimulate invention locally.³² Even in developed capitalist systems evidence that patent systems stimulate invention remains inconclusive.³³ What the patent system and related forms

of legal control of new technology undoubtedly do in industrial capitalism (and have done in Britain since the late 18th century) is to define technology in units which are marketable. In other words, the patent system makes technology into a commodity that can be bought, sold and even exported from one country to another. Trade in technology is a significant feature of modern industrial capitalism.

This general insight about the role of patents derived both from this and other historical research and from an overview of present conditions can be described in the theoretical terms developed by Pashukanis and the 'state derivationists' who, as outlined in the introductory chapter,³⁴ consider the necessity for state intervention in the form of law in capitalist societies. The exchange of the commodity, new technology, is not a simple barter arrangement as the state is required to constitute the commodity itself. It only exists through the intervention of the state. Inherent in this is a contradiction, for ideally, according to the 'classical' distinction between private law and public law, commodity exchange should take place without the intervention of the state. The exchange of the commodity, new technology, is therefore qualitatively different from that of other commodities. It cannot be regulated solely by private law. The state cannot, even ideally, remain totally removed from this transaction. It is therefore forced to abandon its stance of merely guaranteeing commodity relations in the sphere of technology. One would therefore expect the intervention by the state to be characterized by a confusion of public law and private law categories. In other words, one would expect that there would be problems in justifying the intervention of the state (in its public law/overtly 'political' guise) in the private law/'economic' sphere of the exchange of the commodity, new technology. The present historical analysis shows that the problems that on the basis of this theory, one would expect to occur, did historically present themselves.

If one now returns to Holloway and Picciotto's three part model of capitalist development³⁵ it becomes clear why the contradictions were most keenly felt in the second period - the period of liberal capital from the latter half of the 18th century until the mid 1870's - (Chapters 3 to 6 above) in which the role of the state was minimized and rationalized.

In the first, mercantilist period the state intervened directly - even if not always effectively - to create commodity production. Although there

might be important struggles about the scope of the intervention (such as those surrounding the Statute of Monopolies), there was general acceptance of the principle of intervention where commodity production would really be stimulated: i.e. by the introduction of 'new manufactures' (industries).

In the second period, the perception of the ideal role of the state changes - in the common sense of the dominant class at least. It is also supposed to provide conditions in which commodities (arguably including technology) could be freely exchanged in the market. Powerful fractions of the dominant class demand the intervention by the state which would secure exchangeable units of technology. This brings them into direct conflict with those fractions who do not want such intervention and who are supported by the 'common-sense' idea that the state should not intervene in the economy at all. This reveals a contradiction similar to that brought about by social conflicts which create social problems requiring the intervention of a specific body of law supported by an administrative staff. In both cases 'concessions' to state intervention are somewhat reluctantly made.

In the third period the conflict is less acute as a degree of state interventionism becomes more acceptable as a result of the necessity to restructure the mode of production in the light of the threat presented by the perceived crisis in capitalism. The patent system as a form of such intervention is thus more easily accepted although it still remains a contradiction of the idea of a sphere of commodity circulation existing without state intervention.

A possible conclusion based on this model of capitalist development, is that patents - a legal form which necessitated state intervention in the economic sector - presented a functional solution to a problem encountered in the development of capitalism. To use a slightly different terminology: It could be suggested that patents (and their related legal forms) provided a mode of reproduction of a part of the social order - the capitalist control and exploitation of new technology.

III. Emergence and choice

As presented in the previous section the development of the patent system seems inevitable. This bold conclusion is not justified. The modern patent system was not introduced and accepted merely because capitalism

(as an abstract economic force) needed it, but because power was exercised, both directly and indirectly, by human agents. These agents acted in social groupings, themselves structured by the development of industrial capitalism, to have it moulded in a particular way and accepted as common sense. This is not to suggest that their goals were always clearly defined; but it is to claim that this study has demonstrated that men consciously strove to achieve particular solutions to the problems presented by the control of technology under a capitalist system and that the present system was the product of the hegemonic acceptance of their solutions to the problems.

In the introduction it was suggested that this process of problem-solving was best understood as a dialectic between power and structure. Structure was interpreted widely to refer to the evolving social and institutional structures of the emerging (British) capitalist society as well as to the ideological forms within which members of this society shared and organized their perceptions of reality. The concept, power, was also interpreted widely to focus (following Lukes) on the various dimensions of its exercise and (following Turk) on various areas of social life.³⁶ This approach has paid dividends for it has demonstrated that the body of law was not merely a formal device through which the control of technology was structured. Legal forms were part of the common sense of social classes and therefore partially constitutive of them (although, as was seen in Chapter 4, they were not always used in the same way by different classes). These forms were also a potential source of power to those who claimed that the common sense of the dominant class was part of their ideology. At the same time power was exercised to modify this common sense so that it would be congruent with the ideology of a fraction or sector and thus provide support for or opposition to a particular view of the patent system in general or for specific modifications to it. The operation of the system in general, or specific modifications to it, could of course be sought for the instrumental advantage of specific fractions (as has been demonstrated). It is therefore clear that law can have symbolic as well as instrumental dimensions. The view that these qualities emerge in the course of the operation and evolution of a body of law is endorsed. This study has shown that the symbolic value of a particular body of law or specific legal concept depends on its situation within an ideological structure.

A further insight derived from the dialectic between power and structure is that groups attempting to shape the law in a particular way are themselves products of the social structure and that their actions in manipulating legal forms develop the structure further, both by creating groupings and by articulating shared meanings. In particular this study concentrated on the role of patent professionals. It described how they emerged at an intersection of social forces and proceeded to influence the development of the patent system. It was explained how they were part of a general middle class movement towards professionalization and how, as a key fraction within this class, they shaped its attitude towards the patent system. The role of specialized professions in the emergence of law is becoming better documented. To the findings of this study can be added those of Paulus on public analysts³⁷ and Carson on factory inspectors.³⁸ In spite of the fact that these laws (or bodies of law) do not all follow the same pattern of emergence³⁹ it seems that one can advance the tentative generalization that where 'problems' emerge in the development of capitalism - be they social problems such as the over-exploitation of labour in factories, consumers of food and drink, or even particular racial groups, or be they problems more directly linked to productive processes such as the control of new technology - the solution to the problem can be found in the 'neutral' expertise of a middle class profession related to the institutions of the state. This argument does not imply that the intervention of professions is totally determined by the needs of capitalism. Occupational groups choose to fulfil the professional role. As a profession they actively attempt to shape the law in a particular way. As was the case in the struggle with the abolitionists, they can do so successfully. The argument is that the opportunity to act as a profession is structurally given and that the actions of the profession are within the framework of its own interests and of the common-sense framework of the class of which it is part.

Tentative generalizations similar to those about professions as a mode of social organization parallel to law, can be made about the relationship of legal forms to the state. The institutions of the state which existed, or were brought into existence, to administer a body of law provided a framework through which power could be exercised. Early entrepreneurs such as Watt and Arkwright used the framework directly for their personal ends. Patent professionals used state institutions more subtly - but they were nevertheless a source of their professional expertise. Again the relationship between power and (institutional) structure was dialectical.

In the course of being used the institutions of the state were themselves rationalized and reconstructed - often by the bureaucrats themselves⁴⁰ - so that they would both be more effective instrumentally and, because of their apparent rationality, more acceptable symbolically. (Ideals of efficiency and rationality, as has been seen, formed part of the dominant common sense.) In the course of being restructured institutions of the state came to be staffed by a bureaucracy which in turn developed a power base of its own.

Because of the way in which it developed out of a pre-industrial (early modern) framework the emergence of the patent bureaucracy was more complicated than that of most legally related bureaucracies which were freshly created to serve a new piece of legislation. In this respect the patent system can perhaps best be compared to other early modern forms of administration which were remoulded under capitalist conditions. It is noteworthy that the existing 'early modern' bureaucracy of the patent system did not change at the same time as the major transformation of the legal form of patent law at the end of the 18th century. The simultaneous increase in the rationality of law and bureaucracy which Weber appears to have predicted⁴¹ did not take place. Early entrepreneurs were able to use a state apparatus which (at best) followed extrinsic formalities not directly related to the new function of the patent system. This indicates that a logically formal - rational bureaucracy is not an essential part of capitalist development. It lends support to the critics⁴² of Weber's work who have maintained that 'rationality' was not (as Weber suggested) the crucial factor in the emergence of modern industrial capitalism. Analysis of the reform of the patent system (in Chapter 5 above) suggests that it was only when a changed social structure emerged that power could be exercised in order to remodel the institutional structure of the state. In the area of patent bureaucracy the notion of a bounded dialectic between the exercise of power by and through the patent bureaucrats and the operation of the institutional structure of the state remains salient.

IV. The sociological conception of law

In the introduction to this thesis it was said that a sociology of a specific field had the dual goals of providing sociological insights about its subject matter and contributing to the development of sociological theory. To what extent does this thesis succeed in achieving these goals?

The most striking observation about the body of law which has been analysed is that it is sociologically far more complex than the phenomenon referred to in the relatively limited conception of law usually employed by sociologists. The particular segment of law that has been analysed has been shown to be a significant (and changing) feature of social reality at a variety of different analytic levels:

- (A) As the framework within which new technology is cast, enabling it to be controlled and thus to be exploited.
- (B) As the organizing rules for the bureaucracy dealing with new technology. Thus Boehm has noted that in the modern British patent system, '[f]or all practical purposes, it is impossible to disentangle the purely legal from the administrative elements in the processing and production of patents'.⁴³
- (C) As a source of power for professionals dealing in the control of new technology.⁴⁴
- (D) As part of the ideology of a sector of society (supporters of the patent system).⁴⁵
- (E) Finally and most generally, as an emergent part of the hegemonically accepted common sense of contemporary capitalist society.

In his analysis of the game laws of the 18th century E P Thompson comes to a similar conclusion about the extent to which law is a significant social phenomenon:

'First, analysis of the eighteenth century (and perhaps of other centuries) calls in question the validity of separating off the law as a whole and placing it in some typological superstructure. The law when considered as institution (the courts, with their class theatre and class procedures) or as personnel (the judges, the lawyers, the Justices of the Peace) may very easily be assimilated to those of the ruling class. But all that is entailed in 'the law' is not subsumed in these institutions. The law may also be seen as ideology, or as particular rules and sanctions which stand in a definite and active relationship (often a field of conflict) to social norms; and, finally, it may be seen simply in terms of its own logic, rules and procedures - that is, simply as law. And it is not possible to conceive of any complex society without law.' 46

The conclusion of this thesis on the multi-faceted sociological nature of law parallels this view. At the same time it has attempted to examine in some detail the relationship of an industrializing society to a particular body of law. Its central contribution to social theory is to stress that

in this process law plays a crucial role in reproducing a social order - specifically that part of it which enables capitalists to use the institutions of the state to define units of technology (a key feature of the means of production) for them to control. The fact that technological developments 'so fortuitously and frequently have effects favourable to the dominant economic class'⁴⁷ is no longer a mystery. It can be explained by a developmental model of capitalism in which attention is paid to the way in which a specific body of law is created and entrenched so that capitalists are able to exploit the benefits of new technology. Creation of law for this purpose involves the alteration of the function of legal concepts, as Renner has suggested, but it also involves (as was shown in Chapter 3 above) the creation of new legal forms to deal with newly emergent aspects of the economic order.

The reproduction of social order (of which law is a part) is further assisted by law itself. This thesis has shown how natural law arguments were used by middle class reformers as a vehicle for reform - for example the pronouncements of 'Vindicator' quoted in Chapter 5 above.⁴⁸ It was also demonstrated in Chapter 7 how the status quo could be justified by appealing not to natural law but to formal legal enactments. These findings support the suggestions of both Weber and Pashukanis, outlined in the introductory chapter, of how law in general operates as an ideology in developing capitalism.

V. Objectives for future research

This study has focused on just one hitherto unexamined aspect of the relationship between law and the development of capitalism. In order to explore the relationship between the use and evolution of legal forms in industrial capitalism and their acceptance in common sense further studies need to be done of the development of legal institutions such as limited companies, insurance, etc. which sometimes contain apparent contradictions with the dominant ideology⁴⁹ but which are accepted nonetheless. In this way (particularly if developments in more than one nation state could be compared) generalizations could be made about the complex inter-relationship of law and the development of industrial capitalism.

Further, more specific proposals for future research can also be made. A sociological understanding of the legal framework which reproduces the existing form of control of new technology should not accept the descriptions

of the operation of the patent system at face value. One example of such sociological misconception is the acceptance, by the famous American criminologist, E H Sutherland, that patent infringements are a form of 'theft' and should therefore be regarded as 'white collar crime'.⁵⁰ It is clear that the term theft historically was (and is) used primarily because it was thought that its common-sense links with the concept, property, would serve to legitimate patent grants.⁵¹ Particularly if both parties involved in an infringement action were powerful companies with expensive research and development programmes, a model which saw them competing for legal protection within a framework designed to ensure the control of technology, would contribute more to social theory than the emotive concept of crime which, in Sutherland's use of it, tends to elide the social context within which the law operates.

In the case of patent infringements where, although the rhetoric of property, theft and crime has been invoked, criminal sanctions have not been created, the status of the 'offence' is particularly ambiguous. This ambiguity ought to be explained rather than simply ignored by a definitional fiat. Perhaps patent infringements are an extreme instance of what H S Becker and W G Carson have called 'conventional crime'.⁵¹ Not only, as in the case of infringement of the Factories Acts, is there no stigmatization and no enforcement of an effective sanction against its perpetrators, but the criminal justice system is not brought into play by patent infringements at all. The rhetorical cry 'theft' in the case of threatened infringements and during civil infringement proceedings serves to give patents the status of something defended by criminal law (and therefore supported by an implied consensus in society) without the infringer running the risk of coming into contact with the operation of the criminal law. An empirical investigation of infringement proceedings (and threats of such proceedings) which also considered the disputed nature of patent 'rights' would provide another⁵² link between the study of white collar/conventional crime and the sociology of the emergence of law.

A further and more ambitious line of research for which this study could serve as forerunner would be the sociological analysis of the legal framework for the international transfer of technology. In this respect development economists have already done the equivalent of 'gap' studies by pointing out that in developing countries patent systems do not perform their 'accepted'

function of stimulating invention but instead provide a legal means of ensuring that existing technology (which has often already been exploited in developing countries) be purchased at high prices.⁵³ A sociological study would attempt to explain the adoption of a particular legal framework and the hegemonic acceptance of this framework as part of the system of international trade. It would enable the sociology of law to transcend its preoccupation with national systems of law and to investigate law in the context of international politics and multi-national corporations.

FOOTNOTES - CHAPTER 1

- 1 The dual goals of the sociology of law are discussed in C M Campbell & P Wiles 'The Study of Law in Society in Britain' 10 *Law and Society Review* (1976) pp 548-78. For a slightly different classification see P Selznick 'The Sociology of Law' 12 *Journal of Legal Education* (1960) pp 521-31.
- 2 G Lukács *History and Class Consciousness* (1971) p 230..
- 3 M Galanter 'Notes on the Future of Social Research in Law' partially reprinted in L M Friedman & S Macaulay *Law and the Behavioral Sciences* (2 ed 1977) p 20.
- 4 A useful account of the 'gap' problem is contained in R Abel 'Law Books and Books about Law' 26 *Stanford Law Review* (1973) partially reprinted in Friedman & Macaulay *op cit* pp 21-6.
- 5 A Hunt 'Perspectives in the Sociology of Law' in P Carlen [ed] *The Sociology of Law* (1976) p 29.
- 6 Abel *loc cit*.
- 7 For a critical account of the attempts to move away from consensual models in emergence studies, see W G Carson 'The Sociology of Crime and the Emergence of Criminal Laws' in P Rock & M McIntosh [eds] *Deviance and Social Control* (1974) pp 67-90.
- 8 Hunt *loc cit*.
- 9 *ibid* p 34.
- 10 *ibid* p 33.
- 11 *ibid* p 34.
- 12 V Aubert 'White-Collar Crime and Social Structure' 58 *AJS* (1952) pp 263-71.
- 13 *ibid* 270.
- 14 *ibid* .
- 15 *ibid* p 271 .
- 16 *ibid* .
- 17 I Taylor, P Walton & J Young *The New Criminology* (1973) p 258.
- 18 Thus, for example, C Wright Mills in *The Power Elite* (1957) found that in the U S A, contrary to popular belief, only a limited number of people in strategic positions in a few powerful interest groups exercised any significant power at all.

- 19 W J Chambliss 'A Sociological Analysis of the Law of Vagrancy' 12 *Social Problems* (1964) pp 67-77; reprinted in R L Akers & R Hawkins [eds] *Law and Control in Society* (1975).
- 20 *ibid* (Akers and Hawkins) p 71.
- 21 See, for example, Taylor, Walton & Young *op cit* p 265, and, for other reprints, Akers & Hawkins *op cit* and Carson & Wiles [eds] *The Sociology of Crime and Delinquency in Britain* Vol I (1975) p 192 and pp 237-51.
- 22 R Quinney *The Social Reality of Crime* (1970) p 43.
- 23 P Rock *Deviant Behaviour* (1973) p 144.
- 24 This argument is forcefully advanced by Taylor, Walton & Young *op cit* p 266.
- 25 A T Turk 'Law as a Weapon in Social Conflict' 23 *Social Problems* (1975/6) pp 276-91.
- 26 *ibid* pp 279-80.
- 27 *ibid* p 280.
- 28 *ibid* p 281.
- 29 *ibid* p 282.
- 30 S Lukes *Power: A Radical View* (1974).
- 31 *ibid* pp 11-5.
- 32 *ibid* pp 16-20. See also F W Frey 'Comment: On Issues and Nonissues in the Study of Power' 65 *American Political Science Review* (1971) pp 1081-101.
- 33 Lukes *op cit* p 25 nt 5.
- 34 C Crouch 'The State, Capital and Liberal Democracy' in C Crouch [ed] *State and Economy in Contemporary Capitalism* (1979) p 54 nt 12.
- 35 Lukes *op cit* p 54.
- 36 Lukes *op cit* p 34.
- 37 I Paulus *The Search for Pure Food: A Sociology of Legislation in Britain* (1974).
- 38 *ibid* pp 110-17.
- 39 *ibid* pp 60-3.
- 40 See review of Paulus *op cit* by B Ferguson 2 *BJL & S* (1975) pp 236-41.
- 41 O MacDonagh 'The Nineteenth-Century Revolution in Government: A Reappraisal' 1 *The Historical Journal* (1958) pp 52-67 at p 61.

- 42 Paulus *op cit* pp 48-9.
- 43 For a detailed discussion of administrative change in which a similar model is adopted, see O MacDonagh *Early Victorian Government 1830-1870* (1977) Chapters I and II.
- 44 H Parris 'The Nineteenth-Century Revolution of Government: A Reappraisal Reappraised' 3 *The Historical Journal* (1960) pp 17-37.
- 45 O MacDonagh *A Pattern of Government Growth 1800-60 : The Passenger Acts and their Enforcement* (1961) p 71.
- 46 Paulus *op cit* p 49.
- 47 P Young 'A Sociological Analysis of the Early History of Probation' 3 *BJL & S* (1976) pp 44-58.
- 48 The concept of hegemony will be developed below.
- 49 Paulus *op cit* p 15.
- 50 A V Dicey *Lectures on the Relation between Law and Public Opinion in England during the Nineteenth Century* (2 ed) (1914).
- 51 *ibid* p viii.
- 52 *ibid* p 62.
- 53 *ibid* p viii.
- 54 *ibid* p 17.
- 55 See T S Midgley 'The Rôle of Legal History' 2 *BJL & S* (1975) *loc cit* pp 155-156. For a general critique of Dicey see J Stone *Social Dimensions of Law and Justice* (1966); at pp 151-5 and 577-8.
- 56 Dicey *op cit* pp 12-13.
- 57 *ibid* p 37.
- 58 *ibid* p 40.
- 59 *ibid* p 41.
- 60 *ibid* pp 41-2.
- 61 *ibid* p 66.
- 62 *ibid* pp 66-7.
- 63 *ibid* p 67.
- 64 *ibid* p 67.
- 65 *ibid* p 465

- 66 Thus, for example, Chambliss in the conclusion to his study of vagrancy (discussed above) notes that his findings are not consistent 'with the perception of the law as simply a reflection of "public opinion" as is sometimes found in the literature' (*loc cit* p 72). This statement is true in so far as Chambliss' study does show - as do Aubert's and others' - that law is not a reflection of the consensual will of society. In his historical study however, Chambliss does not actually investigate the role of 'public opinion' in the process of law-making. If he had investigated public opinion he might have found a means of studying how powerful interest groups articulated their interests and, in particular, why they thought *law* would be an effective way of expressing them. With the concept of 'dormancy' Chambliss seems to move in this direction. The decision by new interest groups to deploy the old, dormant law of vagrancy as a means of protecting their interests indicates that a body of law, even if dormant, is itself of some ideological significance. Chambliss does not pursue this point.
- 67 J R Gusfield *Symbolic Crusade* (1963). For an earlier example of this approach see T W Arnold *The Symbols of Government* (1962).
- 68 J R Gusfield 'Moral Passage: The Symbolic Process in Public Designations of Deviance' 15 *Social Problems* (1968) pp 175-88.
- 69 W G Carson 'Symbolic and Instrumental Dimensions of Early Factory Legislation: A Case Study in the Social Origins of Criminal Law' in R Hood [ed] *Crime, Criminology and Public Policy* (1974) pp 107-38.
- S B Burman 'Symbolic Dimensions of the Enforcement of Law' 3 *BJL & S* (1976) pp 204-17.
- 70 *ibid* p 125.
- 71 Burman *loc cit*.
- 72 The same criticism does not apply to Burman since he does not look at a specific piece of legislation. However, his study is limited in other ways. If it is useful at all outside a colonial situation, it would apply only where 'a foreign set of values was imposed on a population without consultation by its administrators' (p 217).
- 73 N MacCormick 'Challenging Sociological Definitions' 4 *BJL & S* (1977) pp 87-94 at p 89.
- 74 M Weber *On Law in Economy and Society* [ed] M Rheinstein (1954) p 5. (referred to below as *Law*).
- 75 Ideal types are pure forms which do not exist in such an unadulterated form in reality. See, in general, J Freund *The Sociology of Max Weber* (1970) pp 107-11.
- 76 This concept is widely discussed in the secondary literature. Apart from the references below see also D Wrong [ed] *Max Weber* pp 31-6; J Freund *op cit* pp 140-9 and J E T Eldridge [ed] *Max Weber* (1971) pp 53-70.
- 77 Rationalization is used here in the sense of becoming more rational. In Weberian terminology law can also be irrational. This irrationality can be formal when decisions are guided by means beyond the control of reason, or it can be substantive when decisions are excluded by reactions to the individual case: *Law* pp 60-4; See also Rheinstein's Introduction *Law* p L.

- 78 *Law* p 63.
- 79 *Law* p 63.
- 80 *Law* p 64.
- 81 *Law* p 64.
- 82 Weber in H H Gerth & C Wright Mills [eds] *From Max Weber* (1948) p 78, emphasis omitted.
- 83 *ibid* p 78.
- 84 *ibid* p 79.
- 85 *ibid* p 79.
- 86 R Bendix *Max Weber - An Intellectual Portrait* (1977) p 294: This represents a paraphrase of Weber's views.
- 87 For a discussion of Weber's views on bureaucracy, see M Albrow *Bureaucracy* (1970).
- 88 'Like all others who enjoy advantages over their fellows, men in power want to see their position as "legitimate" and their advantages as "deserved", and to interpret the subordination of the many as the "just fate" of those upon whom it falls. All rulers therefore develop some myth of their natural superiority, which usually is accepted by the people under stable conditions but may become the object of passionate hatred when some crisis makes the established order appear questionable.' (Bendix *op cit* p 294).
- 89 Cf A Giddens *Capitalism and Modern Social Theory* (1971) p 160.
- 90 *Law* p 304.
- 91 P Walton 'Max Weber's Sociology of Law: A Critique' in P Carlen [ed] *The Sociology of Law* (1976) p 8.
- 92 *Law* p 303- following Bendix *op cit* p 391, 'notables' has been substituted for 'honoratiores'.
- 93 Bendix *op cit* p 392.
- 94 *Law* 86-91; Bendix *op cit* 392-5..
- 95 Cf *Law* pp 266-8.
- 96 *Law* p 278.
- 97 *Law* p 201.
- 98 *Law* p 318.
- 99 Cf M Albrow 'Legal Positivism and Bourgeois Materialism: Max Weber's View of the Sociology of Law' 2 *BJL & S* (1975) pp 14-31 and P Walton *loc cit*.

- 100 Ibid p 12.
- 101 See introduction by O Kahn-Freund to Renner *The Institutions of Private Law and their Social Functions* (1949).
- 102 *Law* p 36.
- 103 *Law* p 37.
- 104 *Law* pp 287-88.
- 105 *Law* p 288.
- 106 *Law* p 289.
- 107 *Law* p 290.
- 108 *Law* p 294.
- 109 *Law* p 292.
- 110 *Law* p 292.
- 111 *Law* p 293.
- 112 *Law* p 293.
- 113 *Law* p 293.
- 114 The reason for this is perhaps that Weber's work was completed before the first successful 'communist' revolution in Russia.
- 115 *Law* p 297.
- 116 *Law* p 298.
- 117 *Law* p 299.
- 118 Gerth and Mills *op cit* p 69.
- 119 M Cain 'The Main Themes of Marx' and Engels' Sociology of Law' 1 *BJL & S* (1974) pp 136-48 at p 138. As its title suggests, this article provides a useful overview of the whole field.
- 120 K Marx 'Preface to A contribution to the Critique of Political Economy' in K Marx & F Engels *Selected Works* Vol 1 (1951) p 329.
- 121 *ibid* p 329.
- 122 The meaning of class is controversial : Giddens, for example, argues that social class bears a direct relationship to the capitalist mode of production but that this is not the case in other, earlier modes of production (see A Giddens *The Class Structure of the Advanced Societies* (1973) *passim* especially pp 83-4). The point will be considered in the section on synthesis below.

- 123 Giddens *ibid* p 86.
- 124 K Marx & F Engels *The German Ideology* (1976) p 67.
- 125 K Marx & F Engels 'Manifesto of the Communist Party' in *Selected Works*, Vol I (1951) p 47.
- 126 A Giddens *Capitalism and Modern Social Theory* (1971) p 42.
- 127 K Renner *op cit*. Renner's approach has been explained and elaborated in the lengthy introduction by O Kahn-Freund to the English edition of his book. See also P Robson 'Renner Revisited' in E Attwooll [ed] *Perspectives in Jurisprudence* (1977) pp 221-36. This article applies Renner's method to legal developments in present-day Britain.
- 128 For comments on legal positivism see Kahn-Freund's introduction to Renner *op cit* pp 9-11.
- 129 *ibid* p 92.
- 130 *ibid* p 83 nt 1.
- 131 *ibid* p 81. As Kahn-Freund explains in the introduction (pp 20-24) this essentially Roman concept of property still forms the basis of the property concept in all jurisdictions which have legal systems based on Roman law. The concept of property in English law is more flexible.
- 132 *ibid* p 85.
- 133 *ibid* Chapter 2.
- 134 *ibid* p 92.
- 135 *ibid* p 92. Renner refers to 'traditional regulation of labour' which he contrasts to the 'private contract of employment'. This distinction between public and private law is discussed below.
- 136 *ibid* p 105 *et seq*.
- 137 Cf *ibid* pp 296-98.
- 138 See E B Pashukanis, *The General Theory of Law and Marxism* (1951) pp 172-5, and the discussion of Pashukanis below. Pashukanis refers to K Renner as 'Karner'.
- 139 Renner *op cit* p 256.
- 140 *ibid* p 259.
- 141 *ibid* p 298.
- 142 *ibid* p 66.
- 143 P Q Hirst 'Marx and Engels on law, crime and morality' in Taylor Walton & Young [eds] *Critical Criminology* (1975) pp 203-30.
- 144 *ibid* pp 203-4.

- 145 M Cain 'Optimism, Law and the State: A Plea for the Possibility of Politics' in B-M Blegvad, C M Campbell & C J Schuyt [eds] 1977 *European Yearbook in Law and Sociology* p 20 *et seq.* A more general attack on the notion that Marxism is a 'science' has been made by E P Thompson in *The Poverty of Theory* (1979).
- 146 A Gramsci *Selections from the Prison Notebooks* (1971). At pp 159-60 of this work Gramsci criticises the 'free trade movement' for making the distinction between political society and civil society into 'an organic one, whereas in fact it is merely methodological'. See also J Texier 'Gramsci, theoretician of the superstructures' in C Mouffe [ed] *Gramsci and Marxist Theory* (1979) pp 48-79.
- 147 *Prison Notebooks* p 12.
- 148 C Mouffe 'Introduction' to C Mouffe [ed] *op cit* p 12; see also *Prison Notebooks* pp 181-5 and L Paggi 'Gramsci's general theory of Marxism' in Mouffe [ed] *op cit* pp 113-67.
- 149 Cain *loc cit* p 26.
- 150 *ibid* p 26.
- 151 *ibid* p 27.
- 152 *ibid* p 28.
- 153 *ibid* p 30.
- 154 L Althusser 'Ideology and ideological state apparatuses' in *Lenin, Philosophy and Other Essays* (1971) pp 123-73.
- 155 Cain's conception of the state can be contrasted with that which emerges from the debate between Miliband and Poulantzas about the capitalist state (See the review by Poulantzas (pp 238-53) of Miliband's book *The State in Capitalist Society* (1973) and Miliband's reply (pp 253-62) to the review, in R Blackburn [ed] *Ideology in Social Science* (1972). In this debate Poulantzas has argued, following Althusser, that ideological state apparatuses as well as the repressive state apparatus should form part of the total view of the state. Poulantzas distinguishes between the two because of the relative autonomy of the former, but maintains that they should be analysed together because they fulfil precisely the same function (at p 252).

Miliband argues for the exclusion of ideological state apparatuses from the definition of the state since, in Western capitalism, they are not yet part of the state system (at pp 261-2). His position is therefore closer to that of Cain than that of Poulantzas. However, in *The State in Capitalist Society* Miliband also stresses that 'the state' stands for 'a number of particular institutions which, together, constitute its reality, and which interact as part of what may be called the state system' (at p 46). Amongst these institutions he includes the judiciary (at p 49). He contrasts the state system to the process of political socialization in institutions, such as the church, which he sees as providing hegemonic support for the state from outside (at p 162 *et seq.*) Cain explicitly rejects Poulantzas's position and argues that if ideological state apparatuses are regarded as part of the state it is impossible to analyse why there is friction between various branches of

the state and various intra- and cross-class groupings (in her terminology hegemonic fractions and sectors). She also goes further than Miliband in excluding from the definition of the state all institutions except those directly involved in the exercise of power.

- 156 *ibid.*
- 157 Althusser *op cit* p 137; Poulantzas *loc cit* p 251.
- 158 Miliband *op cit* p161 *et seq.*
- 159 Cain *loc cit* p 36.
- 160 D Hay 'Property Authority and the Criminal Law' in D Hay *et al* [eds] *Albion's Fatal Tree* (1975) pp 17-63.
- 161 Cain *loc cit* p 39.
- 162 *ibid* p 40.
- 163 *ibid* pp 39-40.
- 164 Hay *loc cit.* Like Cain, Hay also uses the concept of hegemony derived from Gramsci.
- 165 In this respect Hay's work is no improvement on Jerome Hall's well-known study of the Carrier's case (in *Theft, Law and Society* (1952)). In the latter a major change in the law of theft is ascribed merely to the combination of social and economic circumstances which brought the law back into line with economic reality. No theory of economic and legal change is advanced. In the former, in spite of its more sophisticated theoretical conception of influence, no attempt is made to come to grips with the dynamics of social and economic change.
- 166 Lack of historical perspective is not overcome by general statements about the 'final instance' or by equivocations about 'the true' as opposed to 'truth' in Cain's description of the nature of the knowledge which she is attempting to generate: Cain *loc cit* p 22.
- 167 J Holloway & S Picciotto 'Capital, Crisis and the State' 2 *Capital and Class* (1977) p 82.
- 168 E B Pashukanis *The General Theory of Law and Marxism* (1951). For an overview of Pashukanis' thought see L Fuller 'Pashukanis and Vyshinsky: A Study in the development of Marxian Legal Theory' 47 *Michigan Law Review* (1949) pp 1157-66.
- 169 In discussing the German 'state derivation' debate reliance has been placed on J Holloway & S Picciotto [eds] *State and Capital* (1978). The introduction by the editors (pp 1-31) situates this debate within Marxism and points out that the relevance of Pashukanis was only 'discovered' after the debate was under way.
- 170 K Marx 'Preface to a Contribution to the Critique of Political Economy' in Marx & Engels *Selected Works* Vol. 1 (1951) p 328.

- 171 The method adopted by these analysts rests on an interpretation of Marx's *Capital*. In this work Marx sought to 'penetrate behind the categories of political economy to discover the social relations which they concealed' (Holloway & Picciotto [eds] Introduction *op cit* p 17).
- 172 Pashukanis *op cit* p 173.
- 173 For example, the personal relationship between master and slave does not depend on law. Law only becomes of importance when a master wishes to sell his slaves.
- 174 Pashukanis *op cit* p 140.
- 175 B Blanke, U Jürgens & H Kastendiek 'On the Current Marxist Discussion on the Analysis of Form and Function of the Bourgeois State: Reflections on the Relationship of Politics to Economics' in Holloway & Picciotto [eds] *State and Capital* (1978) at p 126.
- 176 Pashukanis *op cit* p 147.
- 177 *ibid* p 169.
- 178 Blanke, Jürgens & Kastendiek *loc cit* pp 126-7. The same point is made by Marx in *Capital*, Vol I, (translated Moore & Aveling, 1967) where he notes that in the realm of production one sees that
 'laws that are based on the production and circulation of commodities, become by their own inner and inexorable dialectic changed into their very opposite The ever repeated purchase and sale of labour-power is now mere form; what really takes place is this - the capitalist again and again appropriates, without equivalent, a portion of the previously materialized labour of others and exchanges it for a greater quantity of living labour' (at p 583).
 From his (Althusserian) interpretation of Marxist theory of law B Edelman arrives at a similar conclusion: 'If man is to himself his own capital, the *circulation* of this capital assumes that he is able to dispose of himself in the name (and at the price) of himself, that is, in the name of the very capital which constitutes him. ... At one and the same time man must be subject in law and object in law.'
 (*Ownership of the Image* (1979) p 70).
- 179 Blanke, Jürgens and Kastendiek *loc cit.* p.128.
- 180 *ibid* p 128.
- 181 *ibid* p 129.
- 182 *ibid* p 129.
- 183 Holloway and Picciotto, 'Capital Crisis and the State *loc cit* p.78.
- 184 E P Thompson *Whigs and Hunters*. (1975) p 261. It is interesting that Thompson, from a different Marxist perspective, also questions the base/superstructure distinction: E P Thompson *The Poverty of Theory* (1979).

- 185 Cf objection 2 above.
- 186 Indeed Pashukanis argues that law would disappear entirely in a truly socialist society in which commodity exchange had been eliminated: Pashukanis *op cit* p 179. The point is clearly explained by Fuller *loc cit* p 1163. A sophisticated attempt to justify the continued existence of (at least) criminal law under 'communism' without dismissing Pashukanis' whole approach is to be found in the introduction by P Q Hirst to B Edelman *Ownership of the Image* (1979) pp 10-11.
- 187 Cain *loc cit* p 20; cf objection 3 above.
- 188 Pashukanis *op cit* p 185.
- 189 C Crouch 'The State, Capital and Liberal Democracy' in C Crouch [ed] *State and Economy in Contemporary Capitalism* (1979) pp 33-4. See also the comments of F Longstreth in his contribution to the same work: 'The City, Industry and the State' *op cit* pp 157-8.
- 190 Blanke, Jürgens & Kastendiek, for example, stress the limits imposed on the capitalist state by the fact that its activities are mediated through law. They point out that '[o]nly where private property owners are legal subjects (in their relations within circulation) are they subject to the force of the state. In their private sphere, where their property is at their disposal, they are beyond the reach of state authority' (*loc cit* at p 130). They accept that the bourgeois state can and does intervene directly, often by means of coercive force, to regulate class relations. However, in as far as it does this, it becomes '"only" force proceeding from the bonds of the legal relations' (at p 131). In their discussions of the continuing evolution of the state in capitalist society they constantly focus on the restrictions imposed by legal forms on further intervention.
- 191 J Hirsch 'The State Apparatus and Social Production : Elements of a Theory of the Bourgeois State' in Holloway & Picciotto [eds] *State and Capital* (1978) pp 56-107.
- 192 It must be noted that there are significant differences amongst the various state derivationists. Hirsch, for example, argues (at p 59) that the very idea of a pre-capitalist commodity producing society is an 'inadmissible abstraction'. His analysis of change within capitalism is however complementary to that of Blanke, Jurgens & Kastendiek. Accordingly, for the purpose of this thesis, their differences are ignored.
- 193 *ibid* p 66.
- 194 *ibid* p 71 *et seq.*
- 195 Giddens, *Capitalism and Modern-Social Theory* (1971) p 44, points out that the social minimum depends on the 'culturally expected standards of living in a society'.
- 196 Hirsch *loc cit* p 68.
- 197 The rate of profit is calculated on the formula $\frac{s}{c + v}$; s = surplus; c + v = constant + variable capital = total capital: *ibid* p 70.

- 198 *ibid* p 74.
- 199 Holloway and Picciotto, in the introduction to Holloway and Picciotto [eds] *State and Capital* (1978) p 26.
- 200 Hirsch *loc cit* p 82.
- 201 Hirsch (pp 102-7) predicts that if the state significantly changed these legal forms, capital would take drastic action such as withdrawing investments and the whole edifice of the state would ultimately be threatened. See also the comments of Blanke, Jürgens & Kastendiek, nt 190 above.
- 202 *2 Capital and Class* (1977) pp 76-101.
- 203 *ibid* p 86.
- 204 *ibid* p 88.
- 205 *ibid* p 90.
- 206 *ibid* p 91
- 207 The result, as Blanke, Jürgens & Kastendiek *loc cit* p 130, have pointed out, is that the state is always a force external to the process of accumulation.
- 208 Holloway and Picciotto *loc cit* p 95.
- 209 The result is that, in the words of Holloway and Picciotto (*loc cit* p 95), 'it cannot be assumed that the state will act rationally in the interests of capital in general. On the contrary, the reproduction of competition within the state apparatus ensures an inevitable dislocation, an inevitable tension between state activity and the interests of capital in general....'
- 210 *ibid* p 97.
- 211 Crouch *loc cit*; Longstreth *loc cit*.
- 212 See, for example, E P Thompson *The Making of the English Working Class*, (1968) pp 9 - 13.
- 213 A Giddens *The Class Structure of the Advanced Societies* (1973).
- 214 H Perkin *The Origins of Modern English Society 1780-1880* (1969).
- 215 See, in particular, R J Morris *Class and Class Consciousness in the Industrial Revolution 1780-1850* (1979) and Chapter 3 below.
- 216 Pashukanis *op cit* p 128.
- 217 *ibid* p 128.
- 218 W Kaupen 'Comment' in Blegvad, Campbell & Schuyt [eds] 1977 *European Yearbook of Law and Sociology* pp 140-1.

- 219 G Kolko *The Triumph of Conservatism* (1967).
- 220 *ibid* p 297.
- 221 S Lukes 'Power and Structure' in his *Essays in Social Theory* (1977) at p 29 - emphasis added.
- 222 P Rock in the Introduction to Paulus *The Search for Pure Food* (1974) p 8.
- 223 J J MacManus 'The Emergence and Non-Emergence of Legislation' 5 *BJL & S* (1978) p 190.
- 224 Quoted by Giddens *The Class Structure of the Advanced Societies* (1973) p 86.
- 225 *ibid* p 86.
- 226 *ibid* p 86.
- 227 M Cain 'The Main Themes of Marx' and Engels' Sociology of Law' 1 *BJL & S* (1974) p 146.
- 228 *ibid* p 147.
- 229 Giddens *Capitalism and Modern Social Theory* (1971) p 179.
- 230 Renner *op cit* p 110.
- 231 *ibid* p 112.
- 232 M W Balz *Invention and Innovation under Soviet Law* (1975) p 2.

FOOTNOTES - CHAPTER 2

- 1 This tendency has been noted in the area of monopolies by W Letwin *Law and Economic Policy in America* (1968) pp 18-9.
- 2 A Giddens *The Class Structure of the Advanced Societies* (1973) p 85.
- 3 D C Coleman [ed] *Revisions in Mercantilism* (1969) p 2.
- 4 *Shorter Oxford English Dictionary* 3 ed, p 1235.
- 5 J Gould & W L Kolb [eds] *A Dictionary of the Social Sciences* (1964) pp 423-4. The broader definition enables one to consider mercantilism as an ideology.
- 6 P Ramsey *Tudor Economic Problems* Gollancz, London (1968) p 9.
- 7 D C Coleman *The Economy of England 1450-1750* (1971).
8. E W Hulme 12 *LQR* (1896) at p 142, reproduces the full Latin text of this grant. See also H G Fox *Monopolies and Patents* (1947) p 43.
9. 11 Ed. III c.5; A A Gomme, *Patents of Invention* (1946) p 10.
10. Hulme 12 *LQR* (1896) p 143; Fox *op cit* p 44.
11. There is one example of a royal patent granted before the administrative reforms of the 16th century: A patent for a period of 20 years granted to 'John of Uttyman' of Flanders for the making of coloured glass in 1449: Gomme *op cit* pp 7-8. This appears to have been an isolated instance, but in 15th century Venice similar patents were more common: E T Penrose *The Economics of the International Patent System*, (1951) at p 2 nt 2, gives a bibliography of the works that deal with these forerunners of the British system. The Venetian system did not evolve further. There is no evidence that it, or similar systems of early German princes (Penrose *op cit* p 3), had any direct influence on British developments; but they do point to similar trends under mercantilistic conditions.
12. J R Elton *The Tudor Revolution in Government* (1953).
- 13 27 Henry VIII c.11.; Elton *op cit* p 270.
- 14 See Chapter 5 below.
- 15 M Weber *The Theory of Social and Economic Organization* (1964) pp 329-34, where an exposition of the ideal type is given. See also R Bendix *Max Weber : An Intellectual Portrait* (1977) pp 423-30. For a detailed discussion of problems inherent in the concept, see M Albrow *Bureaucracy* (1970). Albrow summarises the various criticisms of Weber's concept (pp 54-61) and points out that Weber did not define bureaucracy (pp 40- 1). Weber included patrimonial officialdom in his concept. Albrow therefore suggests that a satisfactory definition would be: 'an administrative body of appointed officials' (p 42).

At the same time, it is apparent that Weber concentrated on 'rational' bureaucracy which he saw as inseparably linked to legal domination (authority): 'The purest type of exercise of legal authority is that which employs a bureaucratic staff' (Weber *Theory* p 333).

16 Weber *Law* p 63. See Chapter 1 above.

17 Elton *op cit* p 425.

18 *ibid*.

19 Cf 14 & 15 Vict.c.82. The genesis of this Act is discussed at p 171 below.

20 D C Coleman *The Economy of England 1450-1750* (1971) p 49ff; D C Coleman, *Industry in Tudor and Stuart England* (1975) pp 14-15.

21 In the words of C Hill *Reformation to Industrial Revolution* (1969) p 87 : 'We must beware of optical illusions created by the accidental survival of evidence - in this case export figures.'

22 *ibid* p 88.

23 R U Nef 'The progress of technology and the growth of large-scale industry in Great Britain, 1540-1640' in E M Carus-Wilson [ed] *Essays in Economic History* Vol I (1954) pp 88-107.

24 D C Coleman 'Industrial Growth and Industrial Revolutions' in E M Carus-Wilson [ed] *Essays in Economic History*, Vol III (1962) pp 334-52.

25 *ibid* p 346.

26 Nef *loc cit* pp 90-3.

27 In battery works metal plates were hammered into objects. They were therefore a form of manufacture closely allied to mining and smelting.

28 Nef *loc cit* pp 93-9.

29 *ibid* p 95.

30 *ibid* pp 99-101.

31 For details see nt 40 below.

32 This classification is based on a model advanced by D S-Davies in 48 *LQR* (1932) pp 397-8. Davies' classification is in turn derived from E Lipson *The Economic History of England* Vol III, (6 ed, 1956) pp 352-56.

33 Lipson *op cit*, p 354, gives the examples of dispensations from Acts against the planting of hemp (*ibid* vol II p 109) or against the use of certain mills in cloth-finishing (*ibid* vol III p 51).

34 A well-known example is the patent granted to Sir Walter Raleigh for the licencing of taverns. According to Holdsworth, *A History of English Law*, Vol IV, p 347, this monopoly was protected by the Royal Courts.

- 35 Domination of an existing industry took place *inter alia* in the sphere of glass-making (discussed below) and in the manufacture of salt and soap (W H Price *The English Patents of Monopoly* (1913) pp 112-18 and 119-28 respectively.
- 36 Davies 48 *LQR* (1932) p 398 gives the example of a monopoly for the import of wool from Spain granted to a patentee who 'fyste devised, practised, and put in use' this trade.
- 37 Sir Simonds D'Ewes *The Journal of all the Parliaments during the Reign of Queen Elizabeth, both of the House of Lords and House of Commons* (1682) p 644. Examples would, of course, be the patents for new industries discussed below.
38. Leading examples of such studies are the books by W H Price *The English Patents of Monopoly* (1913) which is written from the point of view of the economic historian, and the more legally orientated, but less critical work by H G Fox *Monopolies and Patents* (1947). For a more sophisticated legal analysis see Letwin *op cit*.
- 39 Price *op cit* pp 5-7; Davies 48 *LQR* (1932) p 397.
- 40 A comparison of the industries mentioned by Nef with the 55 patents, which, according to E W Hulme in his article 'The Early History of the English Patent System' in *Select Essays in Anglo-American Legal History* Vol III (1909), is an exhaustive list of all grants to individuals in furtherance of particular industries between 1561 and 1600, shows that with the exception of the sugar industry, where a patent was refused, all industries were to some extent subject to patents. Patents also referred to other (less important?) industries not mentioned by Nef such as the manufacture of train oil, and bullet boxes, leather tanning and machines for grinding corn. Even the woollen industry was the subject of patent grants (No's 30 and 41 in Hulme's list). Other patents were granted for processes that are impossible (cf No 33 for the changing of iron into copper). Some specific inventions were refused patents, most notably Lee's stocking frame, which Nef mentions (p 100), was turned down in 1589 (Hulme *loc cit* p 139).
- 41 Davies *loc cit* p 396; Fox *op cit* p 150.
- 42 Davies *ibid*.
- 43 The form of patents was influenced by legal rules. These are discussed below. The statement made in this paragraph can also be supported by material from the grants themselves. Examples are given in the following four footnotes from the list of patents produced by Hulme : *Select Essays* or 12 *LQR* (1896) 145- 50 and 16 *LQR* (1900) 45-51.
- 44 e.g. No 4 (1562) to make Alum and
No 36 (1582) to make white salt.
- 45 All the grants carry a time limit. It varied from 7 years (No 31 (1574) for a method of saving fuel) to 30 years (No 34 (1577) for making sulphur). Often further patents would be granted in the same industry after the initial patent had expired.

- 46 e.g. No 19 (1567) - the validity of the patent for glass-making depended on instruction of English craftsmen in the art.
- 47 e.g. No 35 (1578) a three year period laid down in the grant within which the pumps which are the subject of the patent had to be introduced.
- 48 Fox *loc cit* p 50; D W Crossley 'The Performance of the Glass Industry in Sixteenth Century England' 25 *EHR* 2nd series (1972) pp 421-33.
- 49 No 19, Hulme 12 *LQR* (1869) p 149.
- 50 Price *op cit* 67.
- 51 For a general discussion of the successes of the glass industry see Crossley *loc cit*.
- 52 No 32, Hulme 16 *LQR* (1900) p 46; Price *op cit* p 69.
- 53 Price *op cit* p 70.
- 54 See pp 69 - 70 below.
- 55 Price *op cit* p 70.
- 56 *ibid* p 71.
- 57 *ibid*.
- 58 *ibid* p 72.
- 59 H Levy *Monopoly and Competition* (1911) p 33; Crossley *loc cit* p 429.
- 60 s. 13 of 21 Jac I c.3. According to Levy, *op cit* p 33, this was achieved by Mansell's powerful influence.
- 61 Price *op cit* p 78.
- 62 According to Levy, *op cit* p 5, the glass works which Mansell founded survived until 1855.
- 63 M B Donald *Elizabethan Monopolies : The History of the Company of Mineral and Battery Works from 1565 to 1604* (1961).
- 64 (also spelt Houghsetter) No's 10 and 11, Hulme 12 *LQR* (1896) p 147.
- 65 (also spelt Humfry and Shutz) No's 13 and 14, Hulme 12 *LQR* (1896) p 148.
- 66 Donald *op cit* gives a detailed account of the intrigues surrounding these companies.
- 67 Cf Price *op cit* p 61.
- 68 According to Fox *op cit* pp 63-64, the patents for the manufacture of soap and starch also began by providing encouragement for new industry but later became exploitative monopolies.

- 69 Hill *op cit* p 94: cf also Coleman *The Economy of England 1450-1750* p 174.
- 70 1 *Parl Hist* 735. 'Licence' refers to a patent grant.
- 71 D'Ewes *op cit* p 159 reports that the admonition arose out of words spoken by a Mr Bell 'concerning licences granted by Her Majesty'.
- 72 Hulme, *Select Essays* pp 138-9.
- 73 1 *Parl Hist* 905; D'Ewes *op cit* p 547).
- 74 D'Ewes *op cit* p 644, reports that on this title being mentioned: 'All the House cried I, I, I.' cf 1 *Parl Hist* 923.
- 75 D'Ewes *op cit* pp 644-645; 1 *Parl Hist* 924-5.
- 76 D'Ewes *op cit* p 651; 1 *Parl Hist* 931.
- 77 e.g. Speech of Dr Bennet: D'Ewes *op cit* p 645; 1 *Parl Hist* 925-926.
- 78 D'Ewes *op cit* p 650; reproduced in Price *op cit* Appendix G.
- 79 On the 25th November 1601. D'Ewes *op cit* pp 651-652; 1 *Parl Hist* 933-4.
- 80 28th November 1601. Elizabeth's Proclamation concerning Principles, reproduced in Price *op cit* Appendix J.
- 81 *ibid.* These included grants concerning salt, vinegar, train oil and starch. But as Fox *op cit* p 78, points out, the Queen did not actually revoke all the monopolies she mentioned.
- 82 30th November 1601; 1 *Parl Hist* 941; D'Ewes *op cit* p 659 (reproduced in Price *op cit* Appendix K).
- 83 Fox *op cit* p 120.
- 84 Sir W Holdsworth. *A History of English Law* Vol IV. p 284ff.
- 85 *ibid.* This is a translation of Holdsworth's discussion into the terminology developed by Cain. See Chapter I above.
- 86 *Noy* 173; 11 *Co Rep* 84b (sub nom. *Case of Monopolies*); *Moore (KB)* 671 (sub nom. *Darcy v Allen*); discussed below.
- 87 *Moore (KB)* 576. For a translation and summary see Fox *op cit* Appendix I
- 88 Letwin *op cit* pp 23-26.
- 89 *Moore (KB)* 576 at 580.
- 90 Letwin *op cit* p 25.
- 91 *Moore (KB)* 576 at 586-7.
- 92 D'Ewes *op cit* p 645.

93. *Moore (KB)* 591.
- 94 *loc cit.*
- 95 For the background to this case see D S Davies 'Further Light on the Case of Monopolies' 48 *LQR* (1932) pp 394-414.
- 96 *Noy* 182.
- 97 *Moore (KB)* 675; *Co Rep* 86a-86b.
- 98 Cf J W Gordon *Monopolies by Patents* (1897). A composite report is to be found in Appendix II (pp 193-232) of this work. Donald *op cit*, Appendix III, contains a translated and edited version of the three contemporary reports.
- 99 'A proclamation inhibiting the use and execution of any Charter or Grant made by the late Queene Elizabeth, of any kinde of Monopolies, etc' Fox *op cit* p 93. Text reprinted in Price *op cit* Appendix L. James I followed this proclamation with a similar promise in his first speech to Parliament; 1 *Parl Hist* 977 *et seq.*
- 100 1 *Parl Hist* 1071; 1 *JHC* 316-8, 19 November 1606.
- 101 Reprinted in Gordon *op cit* ; cf Fox *op cit* p 96 and Appendix VI.
- 102 Reprinted in Fox *op cit* Appendix VI; 1 *JHC* 294, 7 April 1608.
- 103 1 *JHC* 447, 7 July 1610; Price *op cit* p 27. cf 1 *Parl Hist* 1132.
- 104 1 *JHC* 472-6, 5 May 1614, 3 June 1614; Fox *op cit* p 98.
- 105 *Godbolt* 252; 11 506, *Rep* 53a (sub nom *The Case of the Tailors of Ipswich*)
- 106 *Godbolt* 252 at 254.
- 107 Fox *op cit* 103-12; 1 *Parl Hist* 1242ff.
- 108 Price *op cit* 33; 3 *JHL* 177, December 1621.
- 109 21 Jac.I c. 3.
- 110 Cf K Boehm *The British Patent System* (1967) p 17.
- 111 'The Act of 1624 was, however, weakest in its failure to grasp the significance of the trend of monopoly toward corporate form' (Price *op cit* p 35).
- 112 Hill *op cit* pp 73-4.
- 113 This was particularly true of the long parliament which met for the first time in November 1640. On the 9th November 1640 the House of Commons resolved: 'That all Projectors and Monopolists whatsoever; or that have any share, or lately have had any share, in any monopolies; or that do receive, or lately have received, any benefit from any

Monopoly or Project; or that have procured any warrant or command from the restraint or molesting of any that have refused to conform themselves to any such Proclamations or Projects, are disabled, by order of this House, to sit here in this house' (2 *Parl Hist* 651). cf Sir Simonds D'Ewes, *The Journal of Sir Simonds D'Ewes From the first recess of the long parliament to the withdrawal of King Charles* (Ed] W H Coates, 1942) p 57 *passim* and nt 9.

- 114 16 Car. 1 c. 10; Cf 2 *Parl Hist* 853. This was an event of great significance for, as Holdsworth (*op cit* p 61) has pointed out, 'the Star Chamber never ceased to be substantially the [King's Privy] Council sitting in a judicial capacity'.
- 115 The Privy Council, however, continued to play a central if unpublicised role in the granting of patents until the latter half of the 18th century: Hulme 33 *LQR* (1917) pp 63-75 and 180-195.
- 116 Cf Fox *op cit* p 152.
- 117 On the costs involved in the separate procedure see p 58 below.
- 118 Boehm *op cit* pp 17-18 describes this role. On the declaratory nature of the Statute of Monopolies see Hulme 16 *LQR* (1900) p 55.
- 119 Hulme 12 *LQR* (1896) 152.
- 120 *Noy* 177- 80.
- 121 E Coke *Institutes of the Laws of England* Part III (1797); Boehm *op cit* p 17.
- 122 Coke *op cit*.
- 123 Hulme *Essays* pp 21-138: Although both these decisions appear to have been made in administrative tribunals Coke's attitude indicates that the principle was acceptable to courts of common law.
- 124 *Noy* 183.
- 125 Coke *op cit* Part III p 184; Holdsworth *op cit* Vol IV p 351 nt 5.
- 126 Davies 50 *LQR* (1934) pp 86-109 and 260- 74 at p 263 *et seq.*
- 127 Hulme 13 *LQR* (1897) 313-8.
- 128 Reprinted in Price *op cit* Appendix S.
- 129 Davies 50 *LQR* (1934) p 267.
- 130 See p 92 below.
- 131 *Shorter Oxford English Dictionary* 3rd ed, p 1039.
- 132 On the role of foreigners in the early patent system see Hulme 16 *LQR* (1900) p 52.

- 133 s 6.
- 134 Hulme 13 *LQR* (1897) p 318.
- 135 See the discussion of Renner's thought in Chapter 1 above.
- 136 J Holloway & S Picciotto 'Capital, Crisis and the State' 2 *Capital and Class* (1977) p 87.
- 137 Hulme 13 *LQR* (1897) p 318.

FOOTNOTES - CHAPTER 3

- 1 A E Musson *The Growth of British Industry* (1978) p 61.
- 2 D S Landes *The Unbound Prometheus* (1969) p 41.
- 3 See, for example, E J Hobsbawm *Industry and Empire* (1969). The degree of increase in economic activity is a subject of much debate among economic historians.
- 4 For a useful overview see M W Flinn *Origins of the Industrial Revolution* (1966).
- 5 H Perkin *The Origins of Modern English Society 1780-1880* (1969) p 17.
- 6 See, in general, R J Morris *Class and Class Consciousness in the Industrial Revolution 1780-1850* (1979). According to Giddens (*The Class Structure of the Advanced Societies* Ch 5) a weakness in Marx's use of class is that he uses it to refer to social formations in both pre-capitalist and capitalist societies. For an attack on Perkin's analysis of 18th century society and a defence of the use of the concept 'ruling class' in analyses of this society see D Hay 'Property, Authority and the Criminal Law' in D Hay *et al* [eds] *Albion's Fatal Tree* (1975).
- 7 Giddens *op cit* p 107 *et seq.*
- 8 The government, however, continued to intervene to create the conditions for foreign trade: Hobsbawm *op cit* p 48 *et seq.*
- 9 Perkin *op cit* pp 65-6.
- 10 See L Sklair *The Sociology of Progress*. (1970) for a wide-ranging treatment of changed conceptions of progress.
- 11 David Hume *Essays Moral, Political, and Literary* (1963 first published 1742) p 116.
- 12 Adam Smith *An Inquiry into the Nature and Causes of the Wealth of Nations*. (1976 first published 1776).
- 13 A E Musson & E Robinson *Science and Technology in the Industrial Revolution* (1969) p 16.
- 14 The French Académie Royale des Sciences is a good example.
- 15 A E Musson & E Robinson *op cit*; Editor's introduction in A E Musson [ed] *Science, Technology and Economic Growth in the Eighteenth Century*, (1972).
- 16 P Mathias ('Who unbound Prometheus? Science and Technical Change, 1600-1800' in A E Musson [ed] *op cit* pp 69-96) outlines the objections and notes that the position might vary from one industry to the next.
- 17 D G C Allan *William Shipley: Founder of the Royal Society of Arts* (1968); D Hudson & K W Luckhurst *The Royal Society of Arts 1754-1954* (1954)

- 18 Perkin *op cit* p 68; See also Allan *op cit* p 54.
- 19 Allan *op cit* p 190; M W Flinn (*Origins of the Industrial Revolution* (1966) at p 76) doubts whether in fact the Society of Arts did play any role in the significant inventions of the 19th century.
- 20 D D McElroy, *The Literary Clubs and Societies of eighteenth century Scotland*, (1952) p 144.
- 21 E Robinson 'The Derby Philosophical Society' 9 *Annals of Science* (1953) pp 359-67.
- 22 See, in general, R E Schofield *The Lunar Society of Birmingham* (1963).
- 23 W Bowden *Industrial Society in England towards the end of the Eighteenth Century* (2 ed, 1965) pp 44-5.
- 24 A A Mumford *The Manchester Grammar School, 1515-1915* quoted by Perkin *op cit* p 69.
- 25 An address delivered, on 7 January 1782, by Thomas Barnes D D 'On the Affinity subsisting between the Arts, with a plan for promoting and extending Manufacture by encouraging those Arts on which Manufactures principally depend' 1 *Memoirs of the Literary and Philosophical Society of Manchester* (1785) p 72.
- 26 Cain uses the term, 'ideological sector' to refer to groupings which are often inter-class ' (Optimism, Law and the State' *loc cit* pp27-8). As used here an ideological sector designates a grouping of people from different social ranks in a pre-class society, who share a common ideology.
- 27 H T Wood *A History of the Royal Society of Arts* (1913) p 243.
- 28 21 JHC 782: petition submitted 28 January 1731. See also 'Report from the Select Committee on the Law relative to Patents for Inventions' 3 PP (1829) Papers delivered in by John Farey (referred to as *Farey's Papers* below) p 171.
- 29 37 JHC 422 also pp 367 and 392.
- 30 29 JHC pp 515, 546, 566 and 599; 34 JHC 244, 285, 286, 302 and 367.
- 31 67 JHC pp 175, 207, 225, 468 and 838.
- 32 B R Mitchell & P Deane *Abstracts of British Historical Statistics* (1962) p 268. The source of these statistics is Prof B Woodcroft's *Titles of Patents of Inventions* chronologically arranged.
- 33 The various attempts are discussed in J D Gould *Economic Growth in History*, (1972) pp 320-73 and by A E Musson in A E Musson [ed] *op cit* pp 55-
- 34 Most notably by S C Gilfillan 'Invention as a Factor in Economic History' 5 *JEH* (1945) Supplement; see also Flinn *op cit* p 72.

- 35 R S Fitton & A P Wadsworth *The Strutts and the Arkwrights 1758-1830* (1958) p 93.
- 36 Decided in 1805; *Farey's Papers* p 186.
- 37 15 Geo.III c. 61: An Act for vesting in James Watt, engineer, his executors, administrators, and assigns, the sole use and property of certain steam engines, commonly called fire engines, of his invention, described in the said Act, throughout His Majesty's dominions, for a limited time.
- 38 J Rowe *Cornwall in the age of the Industrial Revolution* (1953) Ch 3.
- 39 'Memorandums relative to Boulton and Watt's engines in Cornwall, 20 April 1799', Item 46 in E Robinson & A E Musson [eds] *James Watt and the steam revolution: A documentary history* (1969) p 209.
- 40 P Mathias *The First Industrial Nation* (1969) p 37.
- 41 W Hands *The Law and Practice of Patents for Inventions* (1808) p 14.
- 42 *ibid*; For the origin of the separate Scots system see Ch 2 above; Baron Hume *Lectures* Vol IV (published by the Stair Society 1955).
- 43 The only known exception was *Edgeberry v Stevens* (1693) 2 *Salkelds reports* 447. It was referred to by Eyre C J in 1795 in *Boulton and Watt v Bull* (*Davies PC* p 206) as 'almost the only case under the saving stat of Jac I [s 6 of the Statute of Monopolies] that is to be found'. The opportunity for the function of a body of law to be changed by a period of dormancy had also been noted by Chambliss in his analysis of the vagrancy laws : Chapter 1 above.
- 44 Observations of Patents (J Weston supplied), Parcel E, Boulton and Watt Collection, Birmingham Reference Library - quoted by E Robinson 'James Watt and the Law of Patents' 13 *Technology and Culture* (1972) p 116.
- 45 *Davies' PC* p 205.
- 46 E W Hulme 33 *LQR* p 193 gives an account of the procedural manoeuvres. A Harding *A Social History of English Law* (1966) p 313.
- 47 John Davies *A collection of the most important cases respecting Patents of Invention* (1816) (referred to as *Davies' PC*).
- 48 *Davies' PC* 37.
- 49 Quoted, in translation, by F Machlup & E Penrose 10 *JEH* (1950) p 11.
- 50 B W Bigbee *Genesis of American Patent and Copyright Law* (1967).
- 51 See, for example the judgment of Eyre C J in *Boulton & Watt v Bull*, *Farey's Papers* p 189.
- 52 Adam Smith *Lectures on Jurisprudence* (1762-3 report published 1978) p 11 - emphasis added.

53. In *Cartwright v Amatt*, *Farey's Papers* p 192, it was held by Lord Eldon that 'patents were to be considered as bargains between the inventors and the public, to be judged on the principle of keeping good faith, by making a fair disclosure of the invention, and to be construed as other bargains'.
- See also *Feather v The Queen* 6 B&S 257 (1865) where the point of the status of a patent as a contract between the state and the patentee was considered: discussion below in ch 6; and D S Davies 50 *LQR* (1934) p 97.
54. *Hornblower v Boulton & Watt*, *Davies' PC* p 225, *Farey's Papers* p 190.
55. (1795) 2 *HBL* 461.
56. *ibid* 48 - 2.
57. s 1 of the Patents Act 1977.
58. *Farey's Papers* p 183; Buller's *Nisi Prius* p 77.
59. Discussed in ch 2 above. See the comment of Eyre C J in *Boulton and Watt v Bull* in *Davies' PC* at p 206; 1 *WPC* p 31.
60. *Davies' PC* p 202.
61. *Davies' PC* p 233; *Farey's Papers* p 190.
62. T A Blanco White *Patents for Inventions* (4 ed 1974) p 257 *et seq.*
63. E W Hulme 13 *LQR* (1897) 313-8; D S Davies 50 *LQR* (1934) 86-109, 260-74.
64. E W Hulme 18 *LQR* (1902) 283-8 has reconstructed the whole judgment from contemporary sources. See also *Farey's Papers* pp 174 and 183. The decision in *Liardet v Johnson* is referred to in *Hamar v Playne* (1809) *Davies' PC* p 318 - see also *Farey's Papers* p 183, Buller's *Nisi Prius* p 76 and 1 *WPC* p 53.
65. Hulme *loc cit* at p 285.
66. *Farey's Papers* p 184; referred to in *R v Arkwright*, *Davies' PC* p 69 and in 1 *WPC* p 59.
67. *Farey's Papers* p 184; quoted in full in the folio edition of *R v Arkwright* entitled *Trial of a Cause to Repeal a Patent Granted to Mr Richard Arkwright* (1785).
68. *Arkwright v Nightingale* 1 *WPC* 61, *Davies' PC* 37; It has been suggested that there was a conspiracy between Arkwright and the defendant to allow Arkwright to succeed and thus to strengthen his patent: G W Daniels *The Early English Cotton Industry* (1920) p 105.
69. in *R v Arkwright* *Farey's Papers* p 185; *Trial of a Cause to Repeal a Patent granted to Mr Richard Arkwright* (1785).

- 70 *Farey's Papers* p 185; *Davies' PC* p 106.
- 71 See ch 8 below for modern developments in this direction.
- 72 See nt 69 above.
- 73 2 *Salkeld's reports* 447.
- 74 *Davies' PC* at p 206.
- 75 See T A Blanco White *Patents for Inventions* (1974) p 223.
- 76 See nt 64 above.
- 77 60 *Monthly Review* (1779) p 72.
- 78 *Liardet v Johnson*, *loc cit*.
- 79 In terms of s 2(1) and (2) of the Patents Act 1977 'novelty is to be absolute in the sense that everything made available to the public in any way is prior art for the purposes of testing whether an invention is new' (R Bowen 'The Changing Patent Scene' in M Vittoria [ed] *The Patents Act 1977* (1978) at p 12). See also ch 8 below.
- 80 37 *JHC* 804 (27 April 1780).
- 81 G W Daniels *The Early English Cotton Industry* (1920) at pp 85-91; E Baines *History of the Cotton Manufacture in Great Britain* (1835 reprint 1966) at p 162.
- 82 Bowden *op cit* p 34.
- 83 See nt 69 above.
- 84 A Redford *Manchester Merchants and Foreign Trade 1794-1858* (1934) p 5.
- 85 *ibid* and W Bowden *op cit* p 167.
- 86 See ch 1 above.
- 87 15 Geo.III c 61: See nt 37 above.
- 88 E Robinson 7 *Historical Journal* (1964) p 213.
- 89 R E Schofield *The Lunar Society of Birmingham* (1963) p 350.
- 90 *Boulton and Watt v Bull loc cit*; *Hornblower v Boulton and Watt loc cit*
See also E Robinson & D McKie [eds] *Partners in Science: Letters of James Watt and Joseph Black*, (1970); which includes numerous letters between Watt and Prof Robison. See, in particular, letter 162 at p 229 in which Watt requests Robison's help.
- 91 J Farey *A Treatise on the Steam Engine* (1827 reprint, 1971) pp 649-50.

- 92 M Boulton to J Watt 15 March 1786; quoted by H W Dickinson *Matthew Boulton* (1937) p 129.
- 93 E Robinson 13 *Technology and Culture* (1972) pp 138-9.
- 94 W Kenrick *An Address to the Artists and Manufacturers of Great Britain Respecting an Application to Parliament for the Farther Encouragement of New Discoveries and Inventions in the Useful Arts*, (1774) p 4.
- 95 *ibid* p 5.
- 96 E Goodwin in 56 *Gentleman's Magazine* (12 September 1785).
- 97 See the detailed discussion of Smith's position in ch 4 below.
- 98 James Watt 'Thoughts upon Patents, or exclusive Privileges for new Inventions' manuscript 1786, reproduced in Robinson & Musson [ed] *James Watt and the Steam Revolution: A Documentary Study* (1969) pp 213-28. In conjunction with Arkwright Watt also produced a draft Bill containing similar proposals (*ibid*).
- 99 See ch 1 pp 29-32 above.
- 100 J Holloway & S Picciotto 'Capital Crisis and the State' *loc cit* p 88. See ch 1 pp 45-6 above.
- 101 See ch 1 p 20 above.

FOOTNOTES - CHAPTER 4

- 1 H Perkin *The Origins of Modern English Society 1780-1880* (1969) p 176.
- 2 See, in general E P Thompson *The Making of the English Working Class* (1968).
- 3 P Elliott *The Sociology of the Professions* (1972) pp 52-3.
- 4 M S Larson *The Rise of Professionalism* (1977) p 9.
- 5 *ibid* p 10.
- 6 See A J Taylor *Laissez-faire and State Intervention in Nineteenth-century Britain* (1972) Chapter 3, for a discussion of who the classical economists were and of the importance of Adam Smith in their ranks.
- 7 A Smith *An Inquiry into the Nature and Laws of the Wealth of Nations* (1776, reprinted 1976) Vol I p 20.
- 8 A Smith *Lectures on Jurisprudence* (1978) pp 346-7 (Lectures of 1762-3) and pp 491-2 (Lectures of 1766).
- 9 The example that Smith himself uses. According to S Hollander *The Economics of Adam Smith* (1973) at p 215, Smith was a close friend of James Watt and knew of the problems of the Boulton-Watt partnership. 'We can thus be sure that Smith was thoroughly familiar with the several problems relating both to the perfection and the commercial application of the steam engine' (*ibid*).
- 10 N Rosenberg 'Adam Smith on the Division of Labour: Two Views or One?' 32 *Economica* ns (1965) at p 133.
- 11 Smith *op cit* Vol 1 p 282.
- 12 *ibid* Vol I p 523.
- 13 *ibid* Vol 2 p 754.
- 14 On the misinterpretation of Smith by modern economic historians as well as by 19th century disciples see R L Crouch 'Laissez-faire in Nineteenth-century Britain: Myth or Reality?' 35 *Manchester School* (1967) especially pp 211-5.
- 15 Bentham wrote extensively on economic matters himself and also directly influenced several important later economists such as James Mill and Thos Tooke (S E Finer 'The Transmission of Benthamite Ideas 1820-50' in G Sutherland [ed] *Studies in the growth of nineteenth-century government* (1972) p 16). In 1821 they in turn founded the Political Economy Club which not only served as a debating forum but was one of the key institutional structures which helped to shape the classical economists into a loose 'scientific community' (D P O'Brien *The Classical Economists* (1975) p 12).
- 16 J Bentham *Manual of Political Economy* reprinted in W Stark [ed] *Jeremy Bentham's Economic Writings* Vol I (1952) p 260 (According to Stark (at p 12) Bentham's works on political economy were actually written between 1786 and 1804. They were published in an erratic and piecemeal way.)

- 17 J Bentham *Chrestomathia* quoted by M Vaughan & M S Archer *Social Conflict and Educational Change in England and France 1789-1848* (1971) p 76.
- 18 J Bentham *The Rationale of Reward* (1825). (According to Stark (*op cit* p 58) this work is of doubtful authenticity as it is based on a compilation of Bentham's work 'made and improved' by the French author, Eugene Dumot, in 1811 and published in French. The 1825 edition was an edited retranslation of Dumot's compilation by Richard Smith. Nevertheless, it seems unlikely that the section discussed was the work of Dumot as it refers specifically to the English patent system.)
- 19 J Bentham *Manual of Political Economy* in W Stark [ed] *op cit* at p 263.
- 20 *ibid.*
- 21 *ibid.*
- 22 *ibid* p 264.
- 23 *ibid.*
- 24 *The Rationale of Reward* pp 319-20.
- 25 *Manual of Political Economy* p 265.
- 26 *ibid.*
27. *The Scotsman* 29 March 1826 (no 649 p 197) - attributed to McCulloch by D P O'Brien *op cit.*
- 28 J R McCulloch *Principles of Political Economy* (2 ed 1830) pp 283-4.
- 29 J S Mill *Principles of Political Economy* (1 ed 1848, later edition, edited W J Ashley, 1909) at pp 932-3.
- 30 *ibid* p 933.
- 31 An attempt to analyse the diffusion of ideas raises the problem of proof. It is not always possible to come to a conclusion as to whether a particular person had even heard of, for example, Bentham or not. Even if it were, it could still not be demonstrated empirically that a person, or even less a group, was motivated by the ideas of a particular writer. Nevertheless, a legitimate attempt can be made to study the dissemination of the ideas of the classical economists and to consider whether these formed the basis for discussion of the adequacy of existing institutions : S E Finer 'The Transmission of Benthamite ideas 1820-50' in Sutherland [ed] *op cit*; on the question of Bentham's influence see H Perkin *The Origins of Modern English Society* pp 267-70 and the sources cited there.
- 32 The latter term is borrowed from D P O'Brien *supra* pp 11-16.
- 33 Some of the classical economists, such as Smith and McCulloch, also taught at universities: A J Taylor *Laissez-faire and State Intervention in Nineteenth-century Britain* (1972) at p 27.

- 34 F W Fetter 'Economic Controversy in the British Reviews, 1802-1850' 32 *Economica* ns (1965) p 425.
- 35 F W Fetter 'The authorship of Economic Articles in the *Edinburgh Review* 1802-1847' 61 *Journal of Political Economy* (1953) p 234.
- 36 57 *Edinburgh Review* (1833) p 8.
- 37 F W Fetter 'The Economic Articles in the *Westminster Review* and Their Authors, 1824-1851' 70 *Journal of Political Economy* (1962) p 570.
- 38 F W Fetter 32 *Economica* ns (1965) p 436.
- 39 D P O'Brien *op cit* pp 11-12.
- 40 C Babbage *On the Economy of Machinery and Manufacturers* (1832). On the importance of Babbage see Lord Robbins *The Theory of Economic Development in the History of Economic Thought* (1968) pp 88-9.
- 41 Preface to the 2nd ed (1832). A fourth ed had been produced by 1835.
- 42 J A Schumpeter *History of Economic Analysis* (1954) p 541. It has been suggested, however, that Babbage was regarded by manufacturers as an 'unpractical eccentric' : E J Hobsbawm *Industry and Empire* (1969) p 122.
- 43 Babbage *op cit* pp 3-4.
- 44 *ibid* pp 288-90.
- 45 A J Taylor *op cit* p 27; M Blaug *Ricardian Economics* (1958) pp 129-39.
- 46 57 *Edinburgh Review* (1833) p 9.
- 47 Cf her novelette *The Hill and the Valley* in her *Illustrations of Political Economy* series.
- 48 *Illustrations of Political Economy* Vol VII (1833).
- 49 *ibid* p 134. The quotation is taken from the summary of principles appended to each story.
- 50 *ibid* p 63.
- 51 *ibid* pp 71-2.
- 52 *ibid* p 123.
- 53 W F Kennedy 'Lord Brougham, Charles Knight and *The Rights of Industry*' 29 *Economica* ns (1962) p 62. Books by Knight written for the SDUK included *The Rights of Industry* (1831), *Knowledge is Power* (1855) and *The Results of Machinery* (1851).
- 54 See the bibliographical note by G D H Cole in T Hodgskin *Labour Defended Against the Claims of Capital* (1825) (reprinted 1922 edited G D H Cole) at p 6 and E Halévy *Thomas Hodgskin* (1956).

- 55 Hodgskin explained in the foreword to his book *Popular Political Economy* (1827), at p XIX, that the term, 'popular' was used to convey the idea that his viewpoints were likely to be more acceptable to 'popular prejudices' than those of Malthus, rather than to suggest that they were amusing.
- 56 E P Thompson *The Making of the English Working Class* (1868) p 817.
- 57 For a discussion of the fragmented social base of the emergent working class see Perkin *op cit* pp 231-7.
- 58 T Hodgskin *Popular Political Economy* (1827).
- 59 *ibid* pp 76-9.
- 60 *ibid* pp 85-6.
- 61 *ibid* pp 104-6.
- 62 *ibid* pp 108-9.
- 63 *Labour Defended Against the Claims of Capital* (1825). See nt 54 above.
- 64 *ibid* pp 89-92.
- 65 *ibid* pp 63-5.
- 66 *ibid* p 100.
- 67 T. Kelly *George Birkbeck* (1957); *A History of Adult Education in Great Britain* (1970).
- 68 J F C Harrison *Living and Learning 1790-1960* (1961); M Tylecote *The Mechanics' Institutes of Lancashire and Yorkshire before 1851* (1957).
- 69 104 separate institutions had been founded by 1826: T Kelly *George Birkbeck* (1957) p 223.
- 70 1 *MM* (1823) p 99.
- 71 *ibid* p 102.
- 72 T Kelly *George Birkbeck* (1957) pp 76-92.
- 73 48 *DNB* 417-8.
- 74 See, for example, 4 *MM* (1825) pp 238-40.
- 75 7 *MM* (1827) p 200.
- 76 *ibid* pp 215, 244-7 and 275-6.
- 77 *ibid* p 245.
- 78 7 *MM* (1827) pp 195-200.

- 79 T Hodgskin *Popular Political Economy* (1827).
- 80 T Hodgskin *The Natural and Artificial Right of Property Contrasted* (1832 - reprinted 1973).
- 81 *ibid* pp 28-34.
- 82 *ibid* pp 33-4.
- 83 *ibid* pp 34-5.
- 84 *ibid* p v.
- 85 *ibid* p i.
- 86 4 *MM* (1825) pp 42-3 and 171-3.
- 87 *ibid* p 172.
- 88 *ibid*.
- 89 *ibid* p 173.
- 90 *ibid*.
- 91 8 *MM* (1827) p 74.
- 92 7 *MM* (1827) p 150.
- 93 T Kelly *A History of Adult Education in Great Britain* (1970) p 125.
- 94 H Perkin *op cit* p 254.
- 95 G Millerson *The Qualifying Associations* (1964) pp 121 and 124.
- 96 T J Johnson *Professions and Power* (1972) ch 2.
- 97 Johnson *op cit* p 38; Larson *The Rise of Professionalism* (1977) pp 4-8.
- 98 Larson *op cit* p xvi.
- 99 Johnson *op cit* p 43.
- 100 *ibid*.
- 101 For this particular period the reports considered were : 1829 Select Committee on the Law relative to Patents for Inventions 3 *PP* (1829); 1836 Committee appointed by the Lords Commissioners of His Majesty's Treasury to Inquire into the Fees and Emoluments of Public Offices: First Report 44 *PP* (1837), Second & Third Reports 45 *PP* (1837); 1848 Committee on the Signet and Privy Seal Offices 22 *PP* (1849); 1851 Select Committee of the House of Lords on the Patent Law Amendment (No 2) Bill 18 *PP* (1851); 1851 Select Committee of the House of Lords on the Designs Act Extension Bill 18 *PP* (1851).
- 102 Carpmael: Q 571; Poole: Q 915, 943-945; Newton: Q 1069; Robertson Q 1240.

- 103 Evidence of W Carpmæl to the Committee on the Signet and Privy Seal Offices *loc cit* 25 August 1848 Q 573-575.
- 104 Evidence of F W Campin to the Committee on the Signet and Privy Seal Offices *loc cit* 19 August 1848 Q 368.
- 105 Evidence of J Farey to the Select Committee on the Law Relative to Patents for Inventions *loc cit* 11 May 1829, p 16.
- 106 Letter dated 12 February 1851 *Aris's Birmingham Gazette* 17 February 1851 (Patent Office Collection POC).
- 107 W Johnson & J H Johnson *The Patentee and Inventor's Guide* (1851).
- 108 Evidence of M Poole to the 1829 Committee, *loc cit* , 27 May 1829, p 83.
- 109 Evidence of J Millington to the 1829 Committee, *loc cit* , 29 May 1829, p 99.
- 110 Evidence of B Woodcroft to 1851 Committee on Patent Law Amendment Bill, *loc cit* , 20 May 1851, Q 1558 *et seq.*
- 111 J H T Tudsberry 'On the origin and progress of the Institution of Civil Engineers' 205 *Minutes of Proceedings of the Institution of Civil Engineers* (1920) pp 217-8.
- 112 Evidence of J Farey to 1829 Committee, *loc cit* 11 May 1829 p 16.
- 113 J Farey *A Treatise on the Steam Engine* (1827 reprinted 1971) - see Vol I pp 647-650 for criticisms of the patent system.
- 114 10 *Minutes of Proceedings of the Institution of Civil Engineers* (1851) pp 193 *et seq.*; the original meeting was held on 4 February 1951. Discussions continued on 11 and 18 February.
- 115 *Repertory of Arts and Manufactures* first published in 1794 split into *Repertory of Arts, Manufactures and Agriculture* and the *Repertory of Patent Inventions*. Neither appears to have continued after 1851. *The Technical Repository* 1822-27 continued as *Gill's Technological Repository* 1827-1830, both edited by Thomas Gill, Patent Agent. *The London Journal of Arts and Sciences* 1820-1834 continued as *The London Journal of Arts and Sciences and Repertory of Patent Inventions* 1832-1854 - edited by W Newton, Patent Agent continued as *Newton's London Journal of Arts and Sciences* (1855-1863). *The Mechanics' Magazine* edited 1823 to 1858 by J C Robertson, patent agent, assisted initially by T Hodgskin 1823-1825. New series 1858-72.
- 116 edited by J H Johnson, patent agent and by C Barlow, patent agent respectively.
- 117 A typical advertisement in 22 *MM* (1835) at p 384 read:
'The Editor of the *Mechanics' Magazine* has made such arrangements as enable him to offer, on unusually advantageous terms, to undertake the solicitation of Patents for New Inventions, the drawing and revising of Specifications, and generally every other branch of Patent business. Drawings of Machines executed with accuracy and dispatch.'

- 118 7 *MM* (1827) p 240.
- 119 See the discussion in the following chapter, 5 below.
- 120 R Godson *Law of Patents for Inventions and Copyright* (1823) p 46 ftnt
- 121 Evidence of J Farey to 1829 Committee *loc cit* p 16.
Evidence of F W Campin to 1848 Committee *loc cit* 12 August 1848 Q 370.
- 122 *The Casebook of James Poole* contains examples of briefs given by Moses Poole to Rotch.
- 123 1831-32 *Report of the British Association for the Advancement of Science*.
- 124 59 *DNB* 126-7.
- 125 J Davies *A collection of the most important cases respecting Patents of Invention* (1816); Papers delivered into the 1829 Committee *loc cit* by J Farey; W Carpmael *Law Reports of Patent Cases 1602-1842* 3 vols (1843-1851); T Webster *Reports and Notes of Cases on Letters Patent for Inventions* 2 vols (Vol I 1844, Vol II incomplete, n d).
- 126 5 *Minutes of Proceedings of the Institution of Civil Engineers* (1846) p 116
- 127 R Godson *Law of Patents for Inventions and Copyright* (1823);
E Holroyd *A Practical Treatise on the Law of Patents for Inventions* (1830)
W Carpmael *The Laws of Patents for Inventions familiarly explained for the use of inventors and patentees* (1832); T Webster *Law and Practice of Letters Patent for Inventions* (1841); W Hindmarch *A Treatise relating to the Law of Patent Privileges for the sole use of Inventions* (1846).
- 128 J D Collier *Essay on the Law of Patents for New Inventions* (1803);
W Hands *The Law and Practice of Patents for Inventions* (1808).
- 129 Collier *op cit* ; Godson *op cit* Ch 1.
- 130 Godson *op cit* p 1.
- 131 Hindmarch *op cit* p 1.
- 132 *ibid*.
- 133 *ibid* p 3.
- 134 *ibid* p 4.
- 135 Evidence of W Newton to 1829 Committee *loc cit* p 72.
- 136 W Spence *Patentable Invention and Scientific Evidence* (1851) p viii.
- 137 A T Turk 'Law as a Weapon in Social Conflict' 23 *Social Problems* (1975-6) p 281; See Turk's discussion of law as a source of power outlined in ch I above.

- 138 For a theoretical discussion of the state mediation in the power of professions see Johnson *Professions and Power* (1977) ch 6.
- 139 Letter from Sir Samuel Shepherd to Lord Lyndhurst, 3 May 1829, in *Poole's Casebook*.
- 140 Handwritten historical note by R B Prosser in *Poole's Casebook*.
- 141 See, in general, the evidence to the 1848 Committee *loc cit* and O MacDonagh *Early Victorian Government 1830-1870* (1977) ch 11.
- 142 See, for example, the testimony of W Goodwin to the 1848 Committee *loc cit* Q 259.
- 143 Evidence of M Poole to the 1829 Committee *loc cit* p 87.
- 144 Evidence of M Poole to the 1848 Committee *loc cit* Q 949-957.
- 145 Evidence of M Poole to the 1829 Committee *loc cit* p 83.
- 146 Evidence of J Farey to the 1829 Committee *loc cit* p 17
- 147 Evidence of M Poole to the 1836 Committee *loc cit* , first report p 60.
- 148 In 1836, 296 patents for inventions were granted. Poole testified to the 1848 Committee, *loc cit* Q 940-942, that his official income was approximately £230 per annum.
- 149 R B Ramsford 'The Profession of Patent Agency' 38 *Transactions of the Chartered Institute of Patent Agents* (1919) p 21.
- 150 Letters of Sir Frederick Pollock, 18 January 1942 (copy in *Poole's Casebook*). See also the handwritten history by R B Prosser (*ibid*).
- 151 Evidence of D G Johnston to the 1848 Committee *loc cit* Q 21-28 and 81-82.
- 152 3 *Law Magazine* (1830) p 283.
- 153 For a description of this procedure see p viii of the Report of the 1848 Committee *loc cit* . The tactic of entering *caveats* in the name of an agent is described by F W Campin: Q 373 in the same report.
- 154 *ibid*.
- 155 See the discussion of Dicey's work in Chapter I, pp 13-5 above.

FOOTNOTES - CHAPTER 5

- 1 H Perkin *The Origins of Modern English Society 1780-1880* (1969) p 209; see also R J Morris *Class and Class Consciousness in the Industrial Revolution 1700-1850* (1979) ch 2.
- 2 The number of patents increased in the latter half of the 18th century (see p 84 above) until, during the period 1790-9, 647 patents were granted the trend continued as follows:

1800-9	924	1830-9	2 452
1810-9	1 124	1840-9	4 581
1820-9	1 462		

(Source B R Mitchell & P. Deane *Abstract of British Historical Statistics* (1962) p 268)
- 3 75 *JHC* (1820) p 310, 316; 76 *JHC* (1821) p 16.
- 4 75 *JHC* (1820) p 312 - second reading deferred: pp 357, 389 and 402.
- 5 *Hansard* new series, vol 1, col 1052 (14 June 1820).
- 6 *Hansard* new series, vol 15, cols 70-73 (22 March 1826).
- 7 *ibid* cols 73-75.
- 8 *ibid*.
- 9 *The Scotsman*, 29 March 1826, p 197; 1 *Monthly Review*, new series, April 1826, p 530.
- 10 Evidence of J C Robertson to the 1848 Committee *loc cit* Q 1240.
- 11 7 *MM* (1827) p 150.
- 12 *ibid* p 149.
- 13 8 *MM* (1827) p 74.
- 14 The campaign, mounted in 1827, consisted of the publication of a numbered series of ten letters: 7 *MM* (1827) pp 149-50, 187-8, 269-70, 277-8, 313-6, 325-7, 347-51. Of these, the first few, all strongly condemning the existing system, drew no comment at all.
- 15 *ibid* p 327.
- 16 *ibid* p 332.
- 17 *ibid* pp 362-4; the proceedings at the meeting are described in *The Times* 6 June 1827, p 3.
- 18 8 *MM* (1827) pp 75-6.
- 19 See ch 3 above.
- 20 3 *LJA* second series (1829) pp 59-60.

- 21 *ibid* p 117.
- 22 *ibid* p 60.
- 23 M Weber *Law* p 289.
- 24 *ibid* p 292.
- 25 *ibid* p 292 ftnt 20.
- 26 Evidence of Wm. Newton to the 1829 Committee *loc cit*, p 77 - in general pp 66-77.
- 27 Evidence of M Poole to the 1829 Committee *loc cit* p 82.
- 28 5 *Repertory of Patent Inventions* (3rd series 1827) pp 50-6.
- 29 In addition to articles in various journals, 1829 saw new petitions for modification of the system: 84 *JHC* (1829) pp 122, 187.
- 30 *Hansard* new series, vol 21, col 608 (9 April 1826)
- 31 *ibid* cols 598-606 at col 600.
- 32 *ibid*.
- 33 See speeches of Gilbert, Peel, Wetherall, Morland. Only Maberly doubted whether the existing law of patents served any purpose: *ibid*.
- 34 *ibid*, col 607.
- 35 Report of the 1829 Select Committee on the Law Relative to Patents for Inventions 3 *PP* - published 12 June 1829.
- 36 *ibid*.
- 37 *The Times* 29 Oct 1829, 1 Jan 1830, 11 Feb 1830.
- 38 *The Times* 29 Oct 1829, p 3.
- 39 22 *Westminster Review* (1835) pp 172-195 at p 195.
- 40 1 *The Wellesley Index of Victorian Publications 1824-1900* p 701.
- 41 43 *Quarterly Review* (1830) pp 305-42 at p 333. These comments appeared in the course of a review of a book by Prof Charles Babbage. For Babbage see ch 4 above.
- 42 *ibid* p 137.
- 43 *ibid* p 341-2.
- 44 They included the *London Journal of Arts* (LJA) (2nd series, vols 4-8), *Mechanics' Magazine* (MM) (vol 12), *Repertory of Patent Inventions* (3rd series, vols 8-10) and *Gill's Technological Repository*.

- 45 3 *LJA* second series (1829) p 65.
- 46 R Godson *Law of Patents for Inventions and Copyright* (1823).
- 47 *Hansard* 3rd series, vol 15, cols 974-88 (19 Feb 1833).
- 48 R Godson *A Supplement to a Practical Treatise on the Laws of Patents for Inventions with Suggestions of Many Alterations to that Law* (1832).
- 49 See the supporting speeches from Lennard, O'Connell, Warburton, and Cayley: *Hansard loc cit*; *The Times* 13 Feb 1833, p 6.
- 50 *The Times* 15 Feb 1833, p 4.
- 51 *ibid*.
- 52 19 *MM* (1833) p 48.
- 53 *ibid* p 271.
- 54 2 *LJA* composite series (1833) pp 127-8.
- 55 *ibid* pp 184-95.
- 56 *ibid*: cf the letter from H Shaw at p 347: 'I've perused both Mr Godson's and your Birmingham and Leeds (Improvement) Bills on the Patent Laws, but both appear to favour too much the lawyers. Why not do without lawyers?'
- 57 *ibid* p 237.
- 58 *ibid* p 254.
- 59 *ibid* pp 237-54.
- 60 W Carpmæl *A Letter on the Proposed Alterations to the Patent Laws* (1833); cf 15 *Repertory of Patent Inventions* 3rd series (1833) p 374.
- 61 16 *Repertory of Patent Inventions* 3rd series (1833) p 151.
- 62 88 *JHC* (23 April 1833) p 297.
- 63 2 *LJA* composite series (1833) p 307.
- 64 *ibid* p 308.
- 65 *ibid* pp 309-14 (proposals) 296-307 (comments).
- 66 88 *JHC* (27 June 1833) p 528.
- 67 *ibid* p 564.
- 68 65 *JHL* (1833) p 585.
- 69 *Hansard* 3rd series, vol 20, cols 440-1 (9 August 1833).

- 70 3 *LJA* composite series (1834) p 103.
- 71 19 *MM* (1833) p 353.
- 72 3 *LJA* composite series (1834) p 103.
- 73 *Hansard* 3rd series, vol 28, cols 472-7 (3 June 1835)
- 74 6 *LJA* composite series (1835) p 304.
- 75 *ibid* p 305.
- 76 *ibid* p 306.
- 77 23 *MM* (1835) pp 310-3.
- 78 *The Times* 27 July 1835; cf 23 *MM* (1835) p 526.
- 79 *Hansard* 3rd series, vol 30 col 468 (13 Aug 1835).
- 80 5 & 6 Will IV c.83.
- 81 *The Times* 8 October 1835.
- 82 4 *Repertory of Patent Inventions* (new, 4th, series) 1835, pp 310-11
- 83 91 *JHC* (1836) pp 475, 526, Second reading deferred pp 571, 634, 662, 685,
713, 777;
92 *JHC* (1837) pp 46, 50, " " " pp 101, 254, 266, 302,
425, 494;
93 *JHC* (1838): Two Bills pp 75, 197
- 84 *Hansard* 3rd series, vol 36 col 557 (14 Feb 1837)
- 85 2 & 3 Vict. c. 67. A further technical amendment was made to this Act by 7 & 8 Vict. c.69 in 1844.
- 86 See, for example, 'Junius Redivivus' 'On the Law of Patents' reprinted from the *True Sun* in 25 *MM* (1836) pp 451-7.
- 87 25 *MM* (1836) p 229.
- 88 4 *Repertory of Patent Inventions* (new, 4th series) (1835) p 369.
- 89 For example, by W Kenrick, ch 3 above.
- 90 Report of the Select Committee on Arts and Manufactures. (4th September 1835) 5 *PP* (1835) and Report of the Select Committee on Arts and their connexion with Manufactures, (16 August 1836) 9 *PP*(1836). The evidence of the 1835 Committee was republished by the 1836 Committee, all references are therefore to the latter.
- 91 Encouragement was initially provided by an 1787 Act (27 Geo.III c.38) entitled: 'An Act for the encouragement of the Arts of designing and printing Linens, Cottons, Calicoes and Muslins by vesting the Properties thereof in the Designers, Printers and Proprietors for a limited time'. In 1789 it was continued by 29 Geo.III c.19.

In 1794 the operation of these Acts was made perpetual by 34 Geo III c.23 and the period of protection was extended from two to three months. On the early history of design protection generally see L Edmunds *The Law of Copyright in Designs* (1895) pp 1-11.

- 92 For example the evidence of J B Papworth, *loc cit* (nt 90 above), Report I,Q1255 *et seq.* JJ Smith Report I,Q106 *et seq.*
- 93 Report from the Select Committee on Arts and their connexion with Manufactures *loc cit* p vii.
- 94 28 *MM* (1837-1838) p 319.
- 95 93 *JHC* p 226 (23 December 1837) 1st reading; second reading deferred pp 236, 255, 300, 340, 381, 410, 457, 526, 569, 578.
- 96 94 *JHC* (21 Feb 1839) p 49; 'A Bill for extending the Copyright for Designs for Calico Printing, for printing other Woven Fabrics.'
- 97 'A Bill to secure to Proprietors of Designs for Articles of Manufacture, the Copyright of such Designs for a limited time.'
- 98 *Hansard* 3rd series, vol 45, cols 746-8 (21 Feb 1839).
- 99 *ibid* col 747.
- 100 See ch 2 above for a discussion in Weberian terms of early modern bureaucracy.
- 101 Copyright of Designs Act (2 Vict c.17).
- 102 H Gerth & C Wright Mills [ed] *From Max Weber* (1948) p 220.
- 103 5 & 6 Vict. c.100. An Act to consolidate and amend the Laws Relating to Copyright of Designs for Ornamenting Articles of Manufacture.
- 104 *Hansard* 3rd series, vol 51, cols 1262-1271 (5 Feb 1840).
- 105 Cf *The Times* 2 March 1841.
- 106 *Hansard* 3rd series, vol 51, col 128 (7 Feb 1842).
- 107 J P Norman *The Law and Practice of the Copyright Registration and Provisional Registration of Designs* (1851) p vi.
- 108 s 3 of the 1842 Copyright of Designs Act.
- 109 6 & 7 Vict c.65: An Act to amend the Law relating to Copyright of Designs; 39 *MM* (1843) p 64.
- 110 39 *MM* (1843) pp 229-30.
- 111 15 *LJA* (1839) p 116.
- 112 39 *MM* (1843) p 148.
- 113 39 *MM* (1843) p 164.

- 114 30 *LJA* (1847) p 368: It referred to the case of *Brett v Massi* which it had reported extensively in its own columns (*ibid* p 357).
- 115 Norman *op cit* p 4.
- 116 *Rights of Inventors*: First report from the Committee on Legislative Recognition of the Rights of Inventors (1850).
- 117 38 *LJA* (1851) p 189.
- 118 20 *LJQB* 31; 16 *QB* 102.
- 119 20 *LJMC* 177; 16 *QB* 810.
- 120 L Edmunds *The Law of Copyright in Designs* (1895) p 12.
- 121 See for example, 45 *MM* (1846); 32 *LJA* (1848) pp 218-22, 300.
- 122 E J Hobsbawm *The Age of Capital 1848-1875* (1975) p 29. The number of patents had continued to grow: See nt 2 above.
- 123 C Babbage *op cit* (1851) p 212.
- 124 *ibid* p 214.
- 125 W Felkin *The Exhibition in 1851 of the Products and Industry of All Nations: Its Probable Influence upon Labour and Commerce* (1851) p 9.
- 126 *ibid* p 24.
- 127 13 & 14 Vict. c.104: The Copyright of Designs Act (1850); 14 Vict. c.8: The Protection of Inventions Act (1851).
- 128 E J Hughes *The Patent Laws of Nations* (1854) p 11.
- 129 *ibid* p 16.
- 130 Open letter from M D Hill QC to W Lucy, Mayor of Birmingham, published in 53 *MM* (1850) p 415.
131. Evidence of T Webster to the 1851 Select Committee on the Patent Law Amendment (no 2) Bill, 18 *PP* (1851) Q34.
- 132 D Hudson and K W Luckhurst *The Royal Society of Arts 1754-1954* (1954) pp 182-3; H T Wood *A History of the Royal Society of Arts* (1913) pp 344-7. See also the comments on the membership of the Society in 38 *LJA* (1851), pp 185-6.
- 133 See ch 3 above.
- 134 H Cole & A S Cole *Fifty Years of Public Work* (1884) vol 1, p 384.
- 135 *ibid* p 273.
- 136 *ibid* p 274.

- 137 Cole later explained that the exclusion had been deliberate :
evidence of H Cole to the 1851 Committee on the Patent Law Bill.
- 138 2 *Household Words* 19 October 1850 pp 73-5.
- 139 *ibid.*
- 140 See, for example, E J Hughes *op cit* p 6.
- 141 *Rights of Inventors* First Report from the Committee on Legislative
Recognition of the Rights of Inventors, (1850).
- 142 *ibid* p 19.
- 143 *ibid* p 17.
- 144 *ibid* p 17.
- 145 H Perkin *op cit* p 323.
- 146 *Tracts of the Liverpool Financial Reform Association* (1851) p vii.
- 147 *ibid*, Tract No 22; 'The Laws for the Protection and Encouragement
of Inventions' pp 1-2.
- 148 O MacDonagh *Early Victorian Government 1830-1870* (1977).
- 149 22 *PP* 1849.
- 150 See ch 2 above.
- 151 S Gordon 'The London Economist and the High Tide of Laissez Faire'
63 *Journal of Political Economy* (1955) pp 461-88).
- 152 *The Economist* 28 Dec 1850, p 1433.
- 153 Gordon *loc cit* p 481.
154. *The Economist* 28 Dec 1850, p 1434.
- 155 *The Economist* 26 July 1851, p 812.
- 156 F W Campin was a member of the National Patent Law Amendment
Association: *Prospectus*, London, 1851. E J Hughes was secretary
of the (Manchester) Patent Law Amendment Association: *Prospectus*,
Manchester, 1850. J C Robertson was a member of the Association
of Patents and Proprietors of Patents for the Protection and
Regulation of Patent Property: *Prospectus*, London, Jan 1851
T Webster set up the United Inventors Association: *Prospectus*,
London, 1851.
157. *Prospectus*, London, 1851.
- 158 R Godson author of *Law of Patents for Inventions and Copyright*
(1823) produced a second supplement (edited by P Burke) to his
major work. T Webster, the author of *Law and Practice of Letters
Patent for Inventions* (1841) produced a pamphlet, *On the Amendment*

of the Law and Practice of Letters Patent for Inventions (1851).
W Hindmarch, the author of *A Treatise on the law relating to Patent Privileges for the sole use of Inventions* (1846) produced *Observations on the defects of the Patent Laws* (1851).

- 159 C S Drewry, the author of a partially complete but published work, *A Commentary on the Law of Patents* (1833?) produced *Observations on points relating to the amendment of the Law of Patents* (1851).
H Lund, the author of *A Treatise on the Substantive Law relating to Letters Patent for Inventions* (1851) produced his own draft version of a new Patent Act, (1849).

T Turner, the author of several popular books on the law governing technological innovation, for example, *Counsel to Inventors of Improvements in the Useful Arts* (1850), produced a pamphlet entitled: *Remarks on the the Amendment of the Law of Patents* (1851).

- 160 Evidence of W Carpmael to 1851 Committee on Patent Law Amendment Bill *loc cit*.
- 161 Thus the Manchester patent agent E J Hughes *The Patent Laws of All Nations* (1854) pp 11 and 16, claimed that the chief obstacles to reform had been the activities of London patent agents.
- 162 *LJA* (1851) pp 185-90; 54 *MM* (1851) p 7.
- 163 54 *MM* (1851) p 6.
- 164 *ibid* p 7.
- 165 *ibid* pp 31-2.
- 166 Evidence of T Webster and W Newton to the 1848 Committee *loc cit*, Qs 732 and 1071 resp.
- 167 Report of the 1848 Committee *loc cit* p xxii.
- 168 18 *PP* 1851.
- 169 T Webster *The New Patent Law* (1854) pp 7-8.
170. 14 Vict c.8.
- 171 s 1
- 172 s 3
- 173 T Webster *The New Patent Law* p 9.
- 174 Mitchell & Deane *op cit* p 268.
- 175 See the evidence of T Webster, Q 104, 105; W Carpmael, Q 267; R H Wyatt, Q 678; F W Campin, Q 755, 766, 784; W Cubitt, Q 1527; H Cole, Q 1878; C May, Q 2732.

- 176 See the evidence of W Cubitt, Q 1518; I K Brunel, Q 1767- 837; J L Ricardo, Appendix pp 393-401; Farrie, Q 909- 74; Lord Romilly (the Master of the Rolls), Qs 2785-830 and R A Macfie, Qs 975-1015.
- 177 Evidence of H Cole, Qs 1838-933; the first Report of the Committee of the Society of Arts was submitted as evidence. Extracts from it were published as 'Appendix A' to the (Parliamentary) Committee's Report; Evidence of W Carpmael; Qs 126-472.
- 178 83 *JHL* pp 78 and 125 respectively: referred to a Select Committee p 130 (11 April 1850). Brougham's Bill was introduced on behalf of the Manchester Patent Law Reform Association: Hughes *op cit* p 15.
- 179 *Hansard* third series, vol 118 cols 5-18, at col 11 (1 July 1851).
- 180 *ibid* at col 18.
- 181 *Hansard* third series, vol 118 cols 1534- 48 (25 July 1851), cols 1848-56 (4 Aug 1851) cols 1895- 903 (5 Aug 1851) cols 1912-26 (6 Aug 1851).
- 182 83 *JHL* pp 508-12 (7 Aug 1851).
- 183 T Webster *The New Patent Law* p 12.
- 184 *Hansard* third series, vol 122, cols 1116-8 (21 June 1852), cols 1202-3 (22 June 1852).
- 185 E J Hughes *op cit* p 16.
- 186 Speech by Earl Grey, Secretary for Colonies in the House of Lords, *Hansard* third series, vol 118, cols 20-1, (1 July 1851).
- 187 *Hansard* third series, vol 118, col 19 (1 July 1851); letter from R A Macfie in *The Times* (5 Aug 1851).
- 188 *Hansard* third series, vol 118, cols 901-1903 (5 Aug 1851) and cols 1912-22 (6 Aug 1851).
- 189 s 18 of the Patent Law Amendment Act 1852.
- 190 *Hansard* 3rd series, 4 vol 119, cols 1852-54 (4 Aug 1851).
- 191 T Webster *The New Patent Law* (1854) p 44.
- 192 *Hansard* third series, vol 122, col 1203 (22 June 1852)
- 193 *ibid*.
- 194 15 & 16 Vict. c.83 an Act for Amending the Law for Granting Patents for Inventions.
- 195 s 23.
- 196 s 18.
- 197 The cost were £5 on application, £20 on sealing. Renewal fees were far heavier, £50 at the end of the third year and £100 at

the end of the seventh year. The fees were replaced by stamp duties at the same level in 1853: 16 Vict. c.5.

198 s 16.

199 This change was brought about indirectly; s 3 entitled the commissioners to make rules 'respecting the business of their Office'. Accordingly Rule 7 of the Second Set of Rules and Regulations under the Act (15 Oct 1852) provided: 'No warrant is to be granted for the sealing of any letter patent which contains two or more distinct substantive inventions.'

200 ss 6-9; cf W F Agnew *The Law and Practice relating to Letters Patent for Inventions* (1874) pp 77-130.

201 ss 12-14.

202 In theory they also included the Lord Advocate and the Solicitor-General of Scotland, and the Attorney-and Solicitor-General of Ireland. In practice the Scots and Irish commissioners were excluded but paid handsome compensation for their loss of potential earnings: H Harding *Patent Office Centenary* (1952) p 10.

203 Harding *op cit.*

204 s 3.

205 See ch 1 p 20 above.

206 J Holloway & S Picciotto 'Capital Crisis and the State' 2 *Capital and Class* (1977) pp 88-92. See the discussion in ch I above.

207 See ch 1 p 20 above.

208 See the discussion of Dicey's work in Chapter 1 above.

209 T Webster *The New Patent Law* (1854) p 46.

FOOTNOTES - CHAPTER 6

1. R A Church *The Great Victorian Boom 1850-1873* (1975) p 76 *et passim*.
2. See for example A E Musson *The Growth of British Industry* (1978) p 152.
3. *ibid*, p 155.
4. H Perkin *The Origins of Modern English Society 1780-1880* (1969) especially Ch 8 'The Triumph of the Entrepreneurial Ideal'.
5. A J Taylor *Laissez-faire and State Intervention in Nineteenth-century Britain* (1972) p 55.
6. 914 patents were sealed from October to December 1852, i.e. the first four months after the 1852 Act had come into operation. This compares with only 470 in the preceding nine months. If one compares the last full year under the old regime (1851) with the first full year under the new regime the figures are 455 and 2187 respectively: B R Mitchell & P Deane *Abstract of British Historical Statistics* (1962) pp 268-9.
7. H Harding *Patent Office Centenary* (1952) p 13.
8. Journals such as the *Mechanics' Magazine*, the *London Journal of Arts*, and the *Repertory for Inventions* fulfilled this function prior to 1852. See Chapter 4 above.
9. See, for example, *The Times*, 12 February 1856, which refers to a 'good and accurate series of indexes' which form 'the nucleus of an industrial library'. There are several other examples in the *Patent Office Collection* (abbreviated to *POC* below).
10. J E T Rogers 'On the Rationale and Working of the Patent Laws' 26 *Journal of the Royal Statistical Society* (1863) p 122.
11. *ibid*.
12. *The Times*, 15 August 1864 p 8.
13. Rogers *loc cit*, p 128.
14. *The Times*, 13 September 1865, p 9.
15. Rogers *loc cit*, p 125.
16. cf *The Times*, 15 August 1864, p 8; see also R A Macfie [ed] *Copyright and Patents for Inventions* 2 vols (1879).
17. *The Times*, 15 August 1864, p 8.
18. *Newcastle Daily Chronicle*, 28 September 1870 (*POC*): *Newcastle Daily Journal*, 28 September 1870 (*POC*).
19. G Doorman *Het Nederlandsch Octrooiwesen en de Techniek der 19e Eeuw* (1947).
20. See for example the leading article entitled 'Professor Rogers and Socialism' in 1 *The Scientific Review* (October 1865) p 125 in which Rogers is accused of a 'very one-sided kind of socialism... [based on] the spoliation of the intelligent for the benefit of the rich'.

- 21 Armstrong *loc cit*.
- 22 Discussion on Patents Laws at the Society of Arts, 3 February 1854:
2 *Journal of the Society of Arts* (1854) p 175.
- 23 See nt 6 above.
- 24 Mr Winkworth 2 *Journal of the Society of Arts* (1854) p 175.
- 25 For an explanation of this term see Chapter 2 above.
- 26 Discussed in H Harding *op cit* pp 16-21.
- 27 *ibid*.
- 28 Testimony of Lord Romilly before the 1871 Select Committee of the
House of Commons on Letters Patent 10 *PP* (1871) p 35 Q 376. Cf also
Q 377. For details of Lord Romilly's career see 49 *DNB* (1897) p 187.
- 29 ss 7 & 8, Patent Law Amendment Act 1852.
- 30 Testimony of Mr Aston before the 1871 Select Committee of the House
of Commons on Letters Patent, 10 *PP* (1871) pp 114-5 Q 1426 (15 June 1871).
- 31 *ibid* p 113, Q 1395 and 1401.
- 32 *ibid* p 113, Q 1398 and 1402.
- 33 *ibid* p 104, Q 1221.
- 34 *Manchester Examiner and Times*, 21 September 1855 (*POC* Item 98).
- 35 *The Times*, 14 September 1861, p 6; for further examples see also
The Times, 3 June 1869 and *The Echo*, 31 May 1869 (*POC*).
- 36 These calculations are based on papers handed in by B Woodcroft
(on 19 March 1872) to the Select Committee of the House of Commons on
Letters Patent. 11 *PP* (1872) p 141, Appendix 5.
- 37 Cf W Hawes in the 1863 *Law Magazine* reported in R A Macfie [ed]
Copyright and Patents for Inventions, Vol II (1879) p 38. -
- 38 A modern writer on patent law, T A Blanco White, *Patents for Inventions*,
(1974) p 27, has noted this as a major weakness of the post-1852 system.
- 39 *The Times*, 14 September 1861, p 6.
- 40 *The Economist*, 5 June 1869.
- 41 *The Echo*, 31 May 1869 (*POC*).
- 42 *The Times*, 14 September 1861, p 6.
- 43 Rogers *loc cit* p 138.
- 44 1 *Journal of the Society of Arts* (1853) p 527.

- 45 Speech by J E T Rogers, 'Can Patents be defended on Economical grounds?' 1861 *Transactions of the British Association*, p 240; speech by Sir W G Armstrong 'On the Patent Laws' 1861 *Transactions of the British Association* p 252; speech by J E T Rogers 'On Patents and Copyright' 1865 *Transactions of the British Association*, p 158.
- 46 Speech by J E T Rogers 'On the Rationale and Working of the Patent Laws', 26 *Journal of the Royal Statistical Society* (1863) pp 121-39.
- 47 Speech by R A Macfie to the National Association for the Promotion of Social Science, 1863, reprinted in R A Macfie *The Patent Question* (1863); speech by Sir Wm. Armstrong at the fourteenth annual congress of the National Association for the Promotion of Social Science (Newcastle-Upon-Tyne), *Newcastle Daily Journal*, 28 September, 1870 (POC).
- 48 Speech of Mr Bright MP before the Birmingham Chamber of Commerce, 12 *Journal of the Society of Arts*, (1864) p 189.
- 49 The subject of patents was debated at numerous meetings of the Society including several designed to discuss specific technological problems - for example, a meeting of the society on 23 April 1853 where E B Denison concluded his discussion of a new lock by saying that 'the lock is not patented because he agreed with many eminent persons who consider patents an obstruction to science' (1 *Journal of the Society of Arts* (1853) p 254). Denison was supported by several other speakers and a correspondence in the Society's journal followed (1 *Journal of the Society of Arts* (1853) pp 272-4, 454, 467-8, 516, 526-7). At meetings on the subject of patent rights abolitionist views were also expressed. See, for example, speeches by Mr Winkworth and Mr Steer in reply to T Webster on 3 February 1854 (2 *Journal of the Society of Arts* (1954) pp 174 and 176 respectively, and speech by W Hawes in reply to a further speech by T Webster on 22 April 1864 (12 *Journal of the Society of Arts* (1864) pp 372-4).
- 50 Speech by R A Macfie, 5 *The Scientific Review* (1870) p 109.
- 51 On 27 May 1862 a Royal Commission 'to inquire into the working of the Law relating to Letters Patent for inventions' was requested. It was granted on 2 June 1862. 117 *JHC* (1862) pp 232 and 243. On the role of the abolitionists in having the commission set up see *The Times*, 29 May 1862, p.11.
- 52 Evidence of Sir Wm Armstrong, 11 February 1863, 29 *PP* (1866) p 66, Qs 1097, 1108 *et passim*; Evidence of R A Macfie, 31 May 1863, p 117, Q 1962 *et passim*.
- 53 Report dated 29 July 1864. Presented on that day in the House of Lords. 96 *JHL*, p 68; Findings reprinted in *The Times*, 9 February 1865.
- 54 Report *op cit* p XIV.
- 55 *The Times*, 10 February 1865, p 8.
- 56 6 *B & S* 257.
- 57 Cf Palmer's speech on 28 May 1869, *Hansard* 3rd series, vol 196, col 900, where he mentions his earlier role.

- 58 At p 285. He thus failed to follow *Walker v Congreve* in which, on 27 July 1816, Lord Eldon had specifically held that the State should be treated 'like any other suitor of the court' on the question of a patent for gunpowder' 3 *PP* (1829) p 202.
- 59 At p 274.
- 60 *The Economist*, 5 June 1869.
- 61 *The Scientific Review* (1865) p 9.
- 62 *ibid.*
- 63 1867 *LR* 3 *Eq* 496.
- 64 *ibid.*
- 65 11 *HLC* 654 (1864-5).
- 66 signed 'A Manufacturer', 2 *The Scientific Review* (1867) p 193.
- 67 His books and pamphlets mostly contain reprints of his earlier speeches: See R A Macfie *The Patent Question* (1863). The book contains a paper submitted to the Social Science Association and a combination of two papers submitted to The Congress of Economists of Germany (in Dresden) and The International Association for the progress of the Social Sciences (in Ghent) respectively. The same is true of his later compilation, *Copyright and Patents for Inventions*, 2 vols (1879).
- 68 Cf R A Macfie [ed] *Recent Discussions on the Abolition of Patents in the United Kingdom, France, Germany and the Netherlands* (1869) in which continental material is extensively reproduced.
- 69 *ibid.* For further information on Macfie's career: see F Machlup & E Penrose, 'The Patent Controversy in the Nineteenth Century' 10 *JEH* (1950) p 14.
- 70 *Hansard* 3rd Series, vol 196, 28 May 1869, motion, col 904; Macfie's speech cols 888-892.
- 71 *ibid*, cols 892-903.
- 72 *ibid*, cols 904-9.
- 73 In a speech by the Attorney-General: *ibid*, cols 920-2.
- 74 *The Times*, 29 May 1869, p 8.
- 75 *The Economist*, 5 June 1869.
- 76 *The Pall Mall Gazette*, 29 May 1869 (POC); *Daily News*, 31 May 1869 (POC).
- 77 *The Times*, 29 May 1968, p 8.
- 78 4 *The Scientific Review* (1869) p 160; for accounts of the same meeting see *Daily News*, 26 July 1869 (POC) and *The Standard*, 28 July 1869 (POC).

79. 4 *The Scientific Review* (1869) p 161.
- 80 Letter from the speaker, G B Galloway, *Daily News*, 31 July 1869 (POC).
- 81 4 *The Scientific Review*, (1869) p 161.
- 82 Letter from R A Macfie, *Daily News*, 29 July 1869 (POC).
- 83 See the discussion of the role of the Inventors' Institute in this meeting below.
84. Editorial, *Daily News*, 30 July 1869 (POC); Letter from T Patterson ('a cabinet maker') *Daily News*, 30 July 1869 (POC) - a footnote from the editor noted: 'We have received several other letters to the same effect as this.'; *Dispatch*, 1 August 1869 (POC).
- 85 *Hansard* 3rd series, vol 204, col 1531 (7 March 1871) - speech of Mr Hinde Palmer.
- 86 See, for example, the speeches by W Hancock and Sir Thomas Philips at the Society of Arts in the course of a debate 'on the Patent Laws', 29 April 1864: 12 *Journal of the Society of Arts*, (1864) pp 384-5 and p 388 respectively.
- 87 *The Standard* , 31 May 1969 (POC).
- 88 1 *The Scientific Review* (March 1865) p 10.
- 89 *Daily News*, 6 January 1870 (POC); see also speech by T Aston, barrister-at-law, to the Manchester Institution of Engineers on 4 January 1870 in which it was said:

'There is clearly no doctrine of free trade which would make it lawful for any man or body of men to appropriate the fruits of another man's labour without giving payment in fair barter, and one cannot help seeing that such a doctrine would confound the free-trader with the freebooter.' *Manchester Guardian*, 5 January 1870 (POC).
- 90 *Pall Mall Gazette*, 10 March 1871 (POC)
- 91 4 *The Scientific Review* (January 1869) p 14 - emphasis added.
- 92 *The Law Times*, 6 October 1866 (POC).
- 93 *ibid.*
- 94 2 *Journal of the Society of Arts* (1854) p 153.
- 95 1 *The Scientific Review* (March 1865) p 10.
- 96 See nt 56 above.
- 97 *The Standard*, 3 June 1869 (POC).
- 98 2 *Journal of the Society of Arts* (1854) p 156.

- 99 Reproduced in 2 *The Scientific Review* (January 1866) p 170.
- 100 M A Soul, *Reform of the Patent Law : a working man's question*. (1869) p 12.
- 101 2 *The Scientific Review* (May 1867) p. 243.
- 102 Letter signed 'Littlejohn', *The Weekly Times*, 6 June 1869 (POC).
- 103 J S Mill *Principles of Political Economy*; The edition by W Ashley [ed] (1909) p 933 is footnoted so as to indicate when various paragraphs were added.
- 104 *Daily News*, 6 January 1870 (POC); *Pall Mall Gazette*, 1 October 1870 (POC); Letter to the editor, signed 'One of the Working Classes', *The Examiner and Times*, April 1871.
- 105 Examples of works by patent experts which include defences of the system are : C D Abel *The Action of Patent Laws in Promoting Invention* (1864); W F Agnew *Law and Practice relating to Patents for Invention*, (1874); F W Campin *Law of Patents for Inventions* (1869); A Practitioner, A.V.N. [A V Newton?] *Patent Law and Practice* (1879); J Fraser *A Handy-book of Patent and Copyright Law* (1860); W Spence *The Public Policy of a Patent Law* (1869); J Brown *Popular Treatise on the Patent Laws, their Working and Reform* (1874).
- 106 *Patent Office Collection*, Items 118 and 137.
- 107 at p 2.
- 108 *Manchester Guardian*, 20 February 1856 (POC); *Manchester Examiner and Times*, 22 November 1856 (POC); references to further meetings in Manchester are also to be found in unnamed newspaper clippings in the Patent Office Collection. In the same collection there is a handbill signed, 'E J Hughes' advertising a public meeting in the Manchester Town Hall on 11 March 1856, 'to Petition Parliament and Memorialize the Patent Law Commissioners...'. (Item 110).
- 109 The 1858 report of the Committee contains an account of its activities in 1854-1858: 1859 *Transactions of the British Association*, pp 164-7.
- 110 1858 *ibid*; 1859 *Transactions*, pp 191-3; 1861 *Transactions*, pp 289-91.
- 111 4 *Journal of the Society of Arts* (1856) p 253; *Daily Telegraph*, 9 February 1856 (POC); *The Times*, 12 February 1856.
- 112 *The Mining Journal* 14 February 1859.
- 113 Cf speech by F H Varley, Annual Dinner of the Inventors' Institute, 12 December 1878, 14 *The Scientific and Literary Review* (1879) p 9.
- 114 Second Annual Report of the Council of the Inventors' Institute, p 3.
- 115 1 *The Scientific Review* (1865) p 41.
- 116 2 *The Scientific Review* (June 1867) p 257. The Inventors' Institute did not receive a royal charter.

- 117 *op cit* at p 6.
- 118 Appendix to the Report of the Commissioners appointed to inquire into the working of the Law relating to Letters Patent for Inventions, 29 *PP* (1864) pp 193-6.
- 119 1 *The Scientific Review* (March 1865) p 9.
- 120 *ibid.*
- 121 7 *The Scientific Review* (June 1873) p 98.
- 122 Cf Campin's obituary in 18 *The Scientific and Literary Review* (May 1883) p 55.
- 123 See, for example 3 *The Scientific Review* (June 1868) p 126; 10 *The Scientific and Literary Review* (February 1875) pp 22-3.
- 124 3 *The Scientific Review* (March 1868) p 29.
- 125 2 *The Scientific Review* (March 1866) p 3.
- 126 2 *The Scientific Review* (April 1866) p 33.
- 127 3 *The Scientific Review* (April 1868) p 58.
- 128 3 *The Scientific Review* (July 1868) p 126.
- 129 4 *The Scientific Review* (January 1867) p 14.
- 130 4 *The Scientific Review* (June 1869) p 115.
- 131 6 *The Scientific Review* (September 1871) p 155.
- 132 4 *The Scientific Review* (June 1869) p 115.
- 133 *ibid.*
- 134 *The Times*, 24 June 1869.
- 135 *ibid.*
- 136 See nt 78 above.
- 137 4 *The Scientific Review* (August 1869) p 160.
- 138 *Daily News*, 29 July 1869 (*POC*) .
- 139 4 *The Scientific Review* (August 1869) pp 160 - 1.
- 140 See nt 85 above.
- 141 See S Cohen *Folk Devils and Moral Panics* (1972) for a discussion of the term 'moral entrepreneur' in sociological literature.
- 142 G Doorman *Het Nederlandsch Octrooiwesen en de Techniek der 19e eeuw* (1947); F Machlup & E Penrose *loc cit.*

- 143 Discussion of the topic was prevented in the House of Commons because a sufficient number of MPs was not present to constitute a quorum: *The Echo*, 21 April 1870 (POC).
- 144 *The Standard*, 10 March 1870 (POC).
- 145 *Hansard*, 3rd series, vol 204, cols 1512-5 and 1515-9 respectively.
- 146 On 8 March 1871, 126 *JHC* p 76.
- 147 The Bill 'to amend the Law relating to Patents' which was introduced as a private member's Bill on 8 March 1871, had its second reading deferred five times before it was finally withdrawn 126 *JHC*, pp 92, 121, 299, 317, 371 (withdrawn) 390.
- 148 *Hansard* 3rd series, vol 204, cols 1512-5.
- 149 *Hansard* 3rd series, vol 204, cols 1515-9.
- 150 Report from the Select Committee on Letters Patent 10 *PP* (1871); Evidence reported on 20 July 1871, 126 *JHC*, p 354.
- 151 127 *JHC* p 22 (on February 1872).
- 152 On 9 May 1872, 127 *JHC* p 188; Report from the Select Committee on Letters Patent 11 *PP* (1872).
- 153 Reported in the *Newcastle Daily Chronicle*, 28 September (POC) *Newcastle Daily Journal*, 28 September 1870 (POC); 18 *Journal of the Society of Arts* (1870) p 880. For comment on his speech see *Newcastle Daily Journal*, 28 September 1870 (POC); *The Standard*, 1 October 1870 (POC).
- 154 *Newcastle Daily Chronicle*, 28 September 1870 (POC).
- 155 5 *The Scientific Review* (1870) p 109.
- 156 Testimony before the 1871 Select Committee of the House of Commons on Letters Patent, 10 *PP* (1871); Qs 798-800 (Sir Roundell Palmer); Q 2262 (Sir William Armstrong); Q 2515 (R A Macfie).
- 157 *ibid*, Qs 4-5 (W R Grove) Q 1703 (E Schneider).
- 158 The remaining eight witnesses all supported the continued existence of the patent system.
- 159 R M Pankhurst, LL.D. 'On the Policy and Provisions of a Patent-Law' 1870 *Transactions of the British Association*, pp 196-7; T Webster 'On the advancement of Science due to patented invention' 1872 *Transactions of the British Association*, p 252.
- 160 A V Newton 'The Patent Laws and their administration with suggestions for their Amendment' 19 *Journal of the Society of Arts* (1871) p 283 *et seq.*
- 161 *The Manchester Courier*, 26 January 1870 (POC); *The Manchester Guardian*, 4 May 1870 (POC); *The Manchester Courier*, 4 May 1870 (POC).

- 162 6 *The Scientific Review* (July 1871) p 123; 7 *The Scientific Review*
(1872) p 51.
- 163 Cf Report of the Select Committee on Letters Patent 11 *PP* (1872).
- 164 6 *The Scientific Review* (July 1871) p 123.
- 165 6 *The Scientific Review* (September 1871) p 155.
- 166 *ibid.*
- 167 C D Abel & J Imray *Patents, Designs and Trade Marks, British and Foreign* (1886).
- 168 6 *The Scientific Review* (July 1871) p 135.
- 169 *ibid.*
- 170 *Daily News*, 6 July 1871 (*POC*); *Morning Advertiser*, 17 July 1871 (*POC*).
- 171 *ibid.*
- 172 On 5 May 1872, 127 *JHC*, p 188.
- 173 *The Times*, 23 May 1872, p 9.
- 174 1872 *PP*, Vol. II, p iii.
- 175 Cf Resolution 12, p iv.
- 176 *The Standard*, 17 May 1872 (*POC*).
- 177 *The Times*, 23 May 1872, p 9.
- 178 Resolution 6, p iii 'Manufacture' was by now a term of art.
- 179 Resolution 7, p iii.
- 180 Resolution 17e, p iv.
- 181 Resolution 17d, p iv.
- 182 Resolution 8, p iii.
- 183 Resolution 19, p v.
- 184 *The Times*, 23 May 1872, p 9 - emphasis added.
- 185 *The Standard*, 21 May 1872 (*POC*).
- 186 *ibid.*
- 187 7 *The Scientific Review* (1872) p 83.
- 188 The same conclusion is reached by F Machlup & E Penrose *loc cit.* pp 28-9.
- 189 A T Turk 'Law as a Weapon in Social Conflict' 23 *Social Problems* (1975-76)
pp 280-1. See also the discussion of Turk in Ch 1 above.
- 190 Doorman *op cit*, pp 47-50.

FOOTNOTES - CHAPTER 7

- 1 Economic historians usually date the 'Great Depression' 1837-1896: of M Dobb, 'The "Great Depression"' in D S Landes [ed] *The Rise of Capitalism* (1966) p 130.
- 2 *ibid* p 131.
- 3 S B Saul *The Myth of the Great Depression 1873-1896* (1969).
- 4 E J Hobsbawm *The Age of Capital 1848-1875* (1975) p 5.
- 5 E J Hobsbawm *Industry and Empire* (1969) p 127.
- 6 D S Landes *The Unbound Prometheus* (1969) p 231.
- 7 17 *The Scientific and Literary Review* (October 1882) p 115.
- 8 J Holloway & S Picciotto 'Capital, Crisis and the State' 2 *Capital and Class* (1977) p 91.
- 9 A E Musson *The Growth of British Industry* (1978) p 161.
- 10 Holloway & Picciotto *loc cit*, p 91.
- 11 *ibid*, p 92 *et passim*.
- 12 Musson *op cit*, pp 152-3.
- 13 Landes, *op cit*, p 325.
- 14 Musson *op cit* pp 216-27.
- 15 F Machlup & E Penrose 10 *JEH* (1950) p 6.
- 16 J Scott *Corporations, Classes and Capitalism* p 153 notes that, in general, '[s]tate apparatuses are... formed through a complex adaptive process' in which 'state personnel' are of key importance.
- 17 *Hansard* 3rd series, vol 213, cols 447-8, 5 August 1872.
- 18 *The Times* 16 September 1875, p 5.
- 19 26 *Journal of the Society of Arts*, 17 May 1878, pp 591-2; H Harding *Patent Office Centenary* (1952) p 26.
- 20 The Judicature Act, 38, 39 Vict.c.77; cf W Holdsworth *A History of English Law*, vol 15, pp 128-38.
- 21 T A Blanco White *Patents for Inventions* (1974) pp 27-8.
- 22 E T Penrose *The Economics of the International Patent System* (1951) p 42.
- 23 H Kronstein & I Till 'A Reevaluation of the International Patent Convention' 12 *Law and Contemporary Problems* (1947) pp 766-9.

- 24 8 *The Scientific and Literary Review* (September 1873) p 139.
- 25 *Hansard* 3rd series, vol 217, col 1328, 31 July 1873; *ibid*, col 1564, 5 August 1873.
- 26 *The Cosmopolitan*, 13 November 1873 (POC).
- 27 Penrose *op cit* p 46; Kronstein & Till *loc cit* p 769.
- 28 *ibid*.
- 29 The resolution was carried with four dissenting votes. The other reasons justified patents on utilitarian grounds. 8 *The Scientific and Literary Review* (September 1873) pp 139-41; *Engineering* 5 September 1873, pp 126-7 (POC); 21 *Journal of the Society of Arts* (1873) p 778.
- 30 *ibid*.
- 31 *ibid*. See also *Daily News*, 1 September 1873 (POC).
- 32 Cf letter from E H Corbutt *The Times*, 22 February 1875, p 12; and 22 *Journal of the Society of Arts* (1874) p 768.
- 33 1873 *Transactions of the British Association* p 219.
- 34 *The Sheffield Daily Telegraph*, 25 September 1873 (POC).
- 35 22 *Journal of the Society of Arts* (1874) p 659; *Daily Telegraph*, 21 March 1874 (POC).
- 36 *The Globe*, 23 March 1874 (POC).
- 37 During the Commons debate in 1869 on Macfie's motion calling for the abolition of patents. See ch 6 above.
- 38 23 *Journal of the Society of Arts* (1875) pp 903-5.
- 39 25 *Journal of the Society of Arts* (1877) pp 956-9.
- 40 *ibid*.
- 41 Kronstein & Till *loc cit* analyse the composition of the participating delegations.
- 42 *Journal of the Society of Arts* (1878) pp 976-7; 13 *The Scientific and Literary Review* (1878) p 185.
- 43 *ibid*.
- 44 E Schiff *Industrialization without National Patents*. (1971) p 85.
- 45 Speech by Admiral Selwyn, 12 December 1878, reported in 14 *The Scientific and Literary Review* (1879) p 9.

- 46 Penrose *op cit* p 53.
- 47 *ibid*.
- 48 Letter from 'A Practitioner' *The Times*, 16 February 1875, p 5.
- 49 The reformist campaign was still spearheaded by the Inventors' Institute (with some working class support?) and the Society of Arts. In 1874 the Inventors' Institute led a large deputation to interview the Lord Chancellor: *The Times*, 14 December 1874, p 10; and 15 December 1874, p 6; *The Saturday Review*, 19 December 1874 (POC) - which commented: 'The process which is called ripening of public opinion has now been adequately performed in reference to the Patent-laws....'; 10 *The Scientific and Literary Review* (January 1875). For other reformist activities during this period see 9 *The Scientific and Literary Review* (1874) p 95, 23 *Journal of the Society of Arts*, (December 1874) pp 34-48, 74-9, 94-116 - a major reformist paper, 'The expediency of patents for invention' by F J Bramwell followed by extensive discussions.
- 50 *Hansard* 3rd series, vol 222, col 243, 12 February 1875.
- 51 *ibid*, col 244.
- 52 *ibid*, col 261.
- 53 *ibid*, cols 249-50.
- 54 *ibid*, col 256.
- 55 *ibid*, col 251.
- 56 *ibid*, col 256.
- 57 *ibid*, col 249.
- 58 At the second reading, *ibid*, 26 February 1875, cols 932-4 and 916-26 respectively. For their previous interventions in 1869 and 1852 respectively see above Chapters 6 and 5. Cf also the abolitionist speech of Lord Hatherley cols 928-32.
- 59 *ibid*; cf comment in *The Standard*, 23 July 1875 (POC)
- 60 107 *JHL*, p 98, 13 April 1875.
- 61 R A Macfie *The Patent Question in 1875* (1875).
- 62 *The Times*, 13 February 1875, p 9:
- 63 'Peers and Patentees' *Pall Mall Gazette*, 1 March 1875 (POC).
- 64 The article in the *Pall Mall Gazette* was reprinted in 10 *The Scientific and Literary Review*, (1875) p 71. For other negative reaction to the Bill: *The Spectator*, 6 March 1875 (POC);

- The Enquirer*, 5 March 1875 (POC). For more moderate criticism: *The Daily News*, 13 February 1875 (POC); *The Echo*, 15 February 1875 (POC); *Morning Advertiser* 16 February 1875 (POC).
- 65 F W Campin, now Secretary of the Inventors' Institute was a key organizer. Younger patent agents also came to the fore: Cf J Brown *Patent Law Reform* (1875) paper submitted to the National United Trades' Union Congress.
- 66 1 *Journal of the Society of Arts*, 12 March 1875, p 359; 107 *JHL* p 63, 11 March 1875; 10 *The Scientific and Literary Review*, 1 May 1875, p 72. See also: Petition from a meeting of London Patent Agents 107 *JHL*, p 290, 24 June 1875.
- 67 10 *The Scientific and Literary Review* (1875) pp 92-3.
- 68 *ibid* p 92. The very fact that these details were noted shows that the reporter wished to demonstrate the wide support for the cause of patent reform.
- 69 *ibid*.
- 70 The Bill was never debated in the House of Commons. It passed its first reading (130 *JHC*, p 158) but its second reading was deferred thirteen times (130 *JHC* pp 170, 187, 204, 216, 220, 237, 257, 270, 285, 301, 321, 330, 350) before it was withdrawn on 23 July 1875 (130 *JHC* p 379). For comment on the withdrawal see *The Standard*, 23 July 1875 (POC); *The Morning Advertiser*, 24 August 1875 (POC).
- 71 *Hansard* 3rd series, vol 227, col 663, 22 February 1876; 108 *JHL*, p 38.
- 72 *ibid*, cols 663-4.
- 73 The only reported debate was at the second reading: *Hansard* 3rd series, vol 227, cols 1944-6, 14 March 1876. For the passage of the Bill: 108 *JHL* pp 83-4 (second reading), p 98 (third reading, 23 March 1876).
- 74 A list of fourteen petitions against the 1876 Bill which were presented to the House of Commons by 9 May 1876 is contained in 24 *Journal of the Society of Arts* (1876) p 611. Most of them were from Trades Councils. For the Society of Arts' own petition: 24 *Journal of the Society of Arts* (1876) p 654: For the petition of the Inventors' Institute: 11 *The Scientific and Literary Review*, (1876) p 83. The British Association was also involved in the protest movement: Cf speech by St J V Day 'On recent attempts at Patent Legislation' 1876 *Transactions of the British Association*, p 198.
- 75 The second reading was deferred eleven times (131 *JHC*, pp 178, 205, 221, 241, 263, 279, 295, 313, 321, 343) before the Bill was withdrawn (131 *JHC*, p 363, 25 July 1876).

- 76 132 JHC, p 31, 13 December 1877.
- 77 132 JHC, pp 59, 73, 87, 101, 114, 140, 157, 173, 189, 212, 236, 248, 265, 281, 297, 317, 329, 346; withdrawn 20 July 1877, p 357.
- 78 The same pattern of petitions and public meetings was followed:
25 *Journal of the Society of Arts* (1877) pp 339-47, 371-8, 421;
12 *The Scientific and Literary Review* (1877) pp 41-2, 54-6;
1877 *Transactions of the British Association*, p 181.
- 79 132 JHC, p 109, 13 March 1877.
- 80 Cf 13 *The Scientific and Literary Review*, (1878) p 57.
- 81 *ibid.*
- 82 133 JHC p 109; 134 JHC, p 17; 135 JHC, p 63; 136 JHC, p 112;
137 JHC, P 48; 138 JHC, p 42 - see also below.
- 83 For example, a leader entitled 'Relief of Trade Depression by Invention' in 14 *The Scientific and Literary Review* (1879) p 165, spoke of the 'chronic state of Trade Depression that has prevailed for several years past' which could be rectified by encouraging invention through a 'sound' patent system. Also a speaker at a Society of Arts Meeting in 1879 said that 'if they desired to restore the country to her former proud position amongst the nations of the globe, they must improve the Patent-law, and without that it would be in vain to rely on free trade or anything else' (27 *Journal of the Society of Arts*, (1879) p 526).
- 84 Quoted in 13 *The Scientific and Literary Review* (October 1878) p 149, which, not surprisingly, contended that '*The Times* has succumbed to the power of truth'.
- 85 Kronstein & Till *loc cit* p 770.
- 86 134 JHC pp 43-4.
- 87 14 *The Scientific and Literary Review*, (1879) p 41.
- 88 Paper by W Lloyd Wise, patent agent, to the Society of Arts, 7 May 1879 - also the discussion that followed: 27 *Journal of the Society of Arts*, (1879) pp 517-27, 551-7.
- 89 On 15 July 1879 after being deferred 25 times: 134 JHC (1879).
- 90 27 *Journal of the Society of Arts*, (1879) p 684.
- 91 *Hansard* 3rd series, vol 262, cols 570-613, 15 June 1881.
- 92 *ibid*, col 587.
- 93 136 JHC, p 302, 15 June 1881. Subsequent readings were deferred until the end of the session when the Bill lapsed.

- 94 137 *JHC*, p 104, 16 March 1882.
- 95 137 *JHC*, p 48, 15 February 1882.
- 96 Anderson's Bill was withdrawn after its second reading had been postponed seven times. Lubbock's Bill passed the second reading but the committal to a Committee of the Whole House was deferred until the end of the session. (137 *JHC*).
- 97 *Hansard* 3rd series, vol 268, col 178, 28 April 1882.
- 98 1897 *Transactions of the British Association*, p 223 & Appendix II pp lxiii-lxviii; 1880 *Transactions*, p 318; 1881 *Transactions*, pp 222-4; 1882 *Transactions*, p 310-1.
- 99 1882 *Transactions*, pp 310-1.
- 100 16 *The Scientific and Literary Review* (1881) p 139; 17 *The Scientific and Literary Review* (1882) p 16.
- 101 'A Bill to amend and consolidate the law Relating to Patents for Inventions, Trade Marks, and Registration of Designs' 138 *JHC*, p 10, 16 February 1883.
- 102 Bills introduced by Sir John Lubbock and Mr Anderson were withdrawn on 25 July and 1 August 1883 respectively: 138 *JHC*, pp 385 and 407.
- 103 At the second reading: *Hansard* 3rd series, vol 278, cols 349-94, 16 April 1883.
- 104 *ibid*, cols 351-2
- 105 *ibid*, col 369.
- 106 *ibid*, col 372.
- 107 138 *JHC*, p 415-6, 4 August 1883.
- 108 See ch 6 pp 201 and 216 above.
- 109 *Hansard* 3rd series, vol 282, col 203, 9 August 1883.
- 110 115 *JHC*, p 453.
- 111 See however R A Macfie, *The Patent Bills of 1883: Private Aims and Public Claims*, (1883) - Macfie's influence had waned considerably by this time. For favourable reaction cf 18 *The Scientific and Literary Review*, (1883) p 91.
- 112 The Patent Legislation Committee of the British Association advanced fairly severe criticisms in 1883, but these were overcome by detailed amendments in 1885: 1883 *Transactions of the British Association*, pp 316-7; 1885 *Transactions*, pp 695-6.

- 113 46 & 47 Vict. c.57 - s 3.
- 114 K Boehm *The British Patent System*, (1967) p 30.
- 115 s 83(1).
- 116 *ibid*.
- 117 s 6.
- 118 s 7(1).
- 119 s 9.
- 120 s 11.
- 121 s 47(1) & (6).
- 122 ss 7(2), 9(2) & (3), 11(2), (3) & (4).
- 123 s 47(6).
- 124 This trend is still developing: see the discussion of modern trends in Chapter 8 below.
- 125 s 46
- 126 Legal textbooks of the period shortly after 1883 frequently refer to cases decided prior to the legislation as authority for what is patentable: C D Abel & J Imray *Patents, Designs & Trade Marks, British and Foreign* (1886); W A Bewes *Copyright, Patents, Designs, Trade Marks etc* (1891).
- 127 T A Blanco White *Patents for Inventions* (4 ed, 1974) p 28.
- 128 s 116.
- 129 s 17(1).
- 130 31 *Journal of the Society of Arts*, 7 September 1883, p 929.
- 131 s 22.
- 132 The number of applications increased from 7 993 in 1883 to 17 100 in 1884: Mitchell & Deane *Abstract of British Historical Statistics* (1962) p 269.
- 133 Boehm *op cit*, p 36.
- 134 *ibid*, p 10.
- 135 Art 4 of the Convention; English translation in Penrose *op cit*, p 56.

- 136 *ibid*, Art 2.
- 137 Switzerland and the Netherlands did not have patent systems at the time. Nevertheless they were signatories to the convention. Later this was used as a means of international pressure to induce them to introduce patent systems themselves: Schiff *Industrialization without National Patents* (1971).
- 138 17 *The Scientific and Literary Review* (1882) p 11.
- 139 R B Ramsford 'The Profession of Patent Agency' 38 *Transactions of the Chartered Institute of Patent Agents* (1919) pp 26-7.
- 140 *ibid*, p 25. The increase of work led to 'far from desirable additions to the profession'.
- 141 Patents, Designs, and Trade Marks Act 1888, 51 & 52 Vict. c.50.
- 142 Harding *op cit*.
- 143 See nt 16 above.
- 144 See *Law* p 298 & ch 1 above.
- 145 A modern text (T A Blanco White, R Jacobs & J D Davies, *Patents, Trade Marks, Copyright and Industrial Designs*, (2 ed 1978) p 25 notes that 'skilled negotiation with the examiner will be worth far more than a patent agent's fee'.
- 146 Referred to by Chamberlain in his speech introducing the first reading of the 1883 Act: *Hansard* 3rd series, vol 278, col 352, 16 April 1883. The story was popular in the circles of patent reformers: Cf 29 *Journal of the Society of Arts* (1881) p 811. In the 1885 *Transactions of the British Association*, p 695 it was referred to as an 'oft-quoted saying'.

FOOTNOTES - CHAPTER 8

- 1 K Boehm *The British Patent System* (1967) p 34. The figures were 16 101 to 44 914 and 9 308 to 26 775 respectively.
- 2 C T Taylor & Z A Silberston, *The Economic Impact of the Patent System: A Study of the British Experience* (1973).
- 3 The law of trademarks can be used for a similar purpose as well: 'By strategic use of a registered [trade] mark on its products, a manufacturer can often maintain a commercial lead over competitors, even though patents and designs covering a product have long since expired and left the product free for anyone to manufacture and sell.' *The Times*, 14 June 1977, p 14. On the choice between different modes of protection see T A Blanco White, R Jacobs & J D Davies *Patents, Trade Marks, Copyright and Industrial Designs*, (2 ed, 1978); and (for an American approach) R I Miller *Legal Aspects of Technology Utilization* (1974).
- 4 Blanco White *et al op cit* pp 48-9; A D Russel-Clarke *On Copyright in Industrial Designs* (5 ed by M Fysh, 1974) p 7.
- 5 A E Turner *The Law of Trade Secrets* (1962). The earliest example of 'a manual of practical law' in this field which included a brief section on trade secrets which could be traced, was W A Bewes *Copyright, Patents, Designs, Trade Marks etc.* (1891).
- 6 See the sources cited at nt 3 above.
- 7 s 7 of the Patents and Designs Act, 1907, 7 Edw.VII c.29.
- 8 K Boehm *op cit* p. 74.
- 9 Blanco White *et al op cit* p 25.
- 10 1977 c.37. This Act came into effect on 1 June 1978.
- 11 For a relatively non-technical summary of the 'Three New Systems of Patent Law' see Blanco White *et al op cit* pp 16-7. For the full complexity of the changes see J C H Ellis 'Terminological Differences between the Patents Act 1977 and the European and Community Patent Conventions' in M Vittoria [ed] *The Patents Act 1977* (1978) pp 21-34.
- 12 The new procedure makes provision for two searches (cf s 17 and s 18 of the Act). The first search considers not only the novelty of the patent but also whether there is an 'inventive step'. The second includes an examination for 'obviousness': R Bowen 'The Changing Patent Scene' in M Vittoria [ed] *op cit* p 11.
- 13 Blanco White *et al op cit* p 24.
- 14 See the Register of Patent Agent Rules which defines the role of the Chartered Institute of Patent Agents and which makes provision for the examination of agents: the Chartered Institute of Patent Agents *Patent Law of the United Kingdom* (1975) pp 405-6.
- 15 *ibid.*

- 16 Cf s 101 of the Patents Act 1949.
- 17 s 1 of the Patents Act 1977.
- 18 M Vittoria 'Patentability and Validity' in M Vittoria [ed] *op cit* pp 47-61.
- 19 Comments of Lord Lloyd of Kilgerran *Hansard* (HL) vol 379 col 253, 24 January 1977; M Vittoria 'Introduction' to M Vittoria [ed] *op cit* p 5.
- 20 R Bowen 'The Changing Patent Scene' in M Vittoria [ed] *op cit* p 9.
- 21 Several of the speakers in the major debate on the 1977 Patents Bill in the House of Lords spoke as, or on behalf of, such experts. Cf Viscounts Eccles: 'Patent agents and the legal profession ... are the gentlemen who have briefed most of your Lordships about this Bill': *Hansard* (HL) vol 379, col 275, 24 January 1977.
- 22 Report of the [Banks] Committee to Examine the Patent System and Patent Law *cmd* 4407 (1970).
- 23 Cf R R Pennington [ed] *European Patents at the Crossroads* (1976).
- 24 The Bill was introduced in the House of Lords and debated at length: *Hansard* (HL) vol 379 cols 234-315, 24 January 1977. In subsequent stages the Bill 'achieved the doubtful distinction of having had the highest number of amendments tabled against any Act in modern times; over 700 in the House of Lords and over 250 in the House of Commons' (M Vittoria 'Introduction' to M Vittoria [ed] *op cit* p 3).
- 25 s 37 - s 41 of the Patents Act 1949; T A Blanco White *Patents for Invention* (1974) p 369.
- 26 s 41 relating to food and drugs was used most often. But according to Boehm *op cit* p 119, it was still not used very frequently. Case law on the subject is sparse.
- 27 *The Guardian*, 18 April 1975, p 18; M Vittoria 'Introduction' in M Vittoria [ed] *op cit* p 5; *The Times*, 14 June 1977, p 15.
- 28 See, for example, *The Times*, 14 June 1977, p 15.
- 29 See, for example, the response of the Lord Chancellor to Lord Eccles in his reply to the debate on the 1977 Patents Bill : *Hansard* (HL) vol 379 col 309, 24 January 1977.
- 30 H Johannes *Industrial Property and Copyright in European Community Law* (1976) p 1.
- 31 In general they have patent systems to facilitate trade in technology with capitalist countries. These are not used in practice by nationals: M W Balz *Invention and Innovation under Soviet Law* (1975).
- 32 C V Viatsos 'Bargaining and the Distribution of Returns in the Purchase of Technology by Developing Countries' 3 *Bulletin of the Institute of Development Studies* (1970), p 16.

- 33 Taylor & Silberston *op cit* conclude: 'The impact [of the patent system] on the rate and direction of inventive and innovative activity undertaken by industry is extremely small on the whole in all areas examined except the "secondary" (non-basic) chemical industries.' See also J D Gould *Economic Growth in History* (1972) pp 320 - 350, for a detailed discussion of the problems calculating the effect of patents.
- 34 See ch 1 pp 36 - 47 above.
- 35 Outlined pp 45 - 7 above.
- 36 The concepts of power developed by Turk and Lukes are discussed at pp 8 - 10 above.
- 37 I Paulus *The Search for Pure Food* (1974) pp 68 - 70 *et passim*.
- 38 W G Carson 'Some Sociological Aspects of Strict Liability and the Enforcement of Factory Legislation' 33 *Modern Law Review* (1970) pp 396-412.
- 39 See B Ferguson, Book review of Paulus *op cit* 2 *BJL&S* (1975) pp 236-41.
- 40 See J Scott *Corporations, Classes and Capitalism* (1979) p 153 and Ch 7 nt 16 above.
- 41 For an outline of Weber's views see p 20 above.
- 42 Discussed at p 22 above.
- 43 Boehm *op cit* p 55.
- 44 See Ch 4 above.
- 45 See Ch 6 above.
- 46 E P Thompson *Whigs and Hunters* (1975) p 260.
- 47 M Cain attributes this view to Marx: see p 53 above.
- 48 At p 157 above.
- 49 T Hadden has noted : 'English company law ... has ceased to bear close relation to the realities of commercial organization. And it is tied to a conception of capitalism which has been discarded by all but the most *laissez faire* economists' *Company Law and Capitalism* (1972) p ix.
- 50 E H Sutherland *White Collar Crime* (1961) pp 95-100.
- 51 H S Becker *Sociological Work* (1971); W G Carson 'The Conventionalization of Early Factory Crime' 7 *International Journal of the Sociology of Law* (1979) pp 37-60.
- 52 Carson 'The Conventionalization of Early Factory Crime' *loc cit* points out the emergent nature of this link. The proposed study would attempt to consider the boundaries of analytic usefulness of the concepts white collar crime and conventional crime. The sociological significance of the criminal law/civil law distinction also warrants further investigation. (Paulus *op cit* pp 128-9, also relates white collar crime and the sociology of law.)
- 53 Viatsos *loc cit*.

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